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L2 acquisition at the interfaces: Subject-verb inversion in L2 English and its pedagogical implications

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L2 acquisition at the interfaces: Subject-verb inversion in L2 English and its pedagogical implications

Aquisição de L2 nas interfaces: A inversão sujeito-verbo em inglês L2 e as suas implicações didáticas

Joana Alexandra Vaz Teixeira

KEYWORDS: (applied) generative second language acquisition, syntax-discourse interface, lexicon-syntax interface, subject-verb inversion, null subjects, Interface Hypothesis, L2 grammar teaching

PALAVRAS-CHAVE: aquisição de segunda língua (aplicada) numa perspetiva generativa, interface sintaxe-discurso, interface léxico-sintaxe, inversão sujeito-verbo, sujeitos nulos, Hipótese de Interface, ensino da gramática em L2

The present PhD thesis deals with two kinds of interfaces that have recently become key areas of interest in generative second language acquisition research (GenSLA): (i) *linguistic interfaces* – the syntax-discourse interface (our main focus of research) and the lexicon-syntax interface in adult second language (L2) acquisition –, and (ii) *an interdisciplinary interface* – the interface between the domains of GenSLA and L2 pedagogy. The thesis seeks to shed new light on four general questions which are still a matter of debate in GenSLA: (i) Are narrow syntactic and lexical-syntactic properties unproblematic at the end state of L2 acquisition, as the Interface Hypothesis (IH) (Sorace & Filiaci, 2006; Sorace, 2011b) predicts? (ii) Are properties at the syntax-discourse interface necessarily problematic at the end state of L2 acquisition, as the IH proposes? (iii) What are the roles of cross-linguistic influence, input and processing factors in L2 acquisition at the syntax-discourse interface? (iv) Can explicit instruction help L2 learners/speakers (L2ers) overcome persistent problems in the acquisition of syntactic and syntax-discourse properties?

With a view to investigating these questions, the thesis focuses on a linguistic phenomenon that has been little researched in GenSLA: subject-verb inversion (SVI) in L2 English. Three types of SVI are considered here: (i) “free” inversion (and their

correlation with null subjects), (ii) locative inversion and (iii) presentational *there*-constructions (i.e., *there*-constructions with verbs other than *be*). The first is ungrammatical in English due to a purely syntactic factor: this language fixes the null subject parameter at a negative value. The last two types of SVI, on the other hand, are possible in English under certain lexical, syntactic and discourse conditions.

The thesis comprises two experimental studies: (i) a study on the acquisition of the lexical, syntactic and discourse properties of SVI by advanced and near-native L2ers of English who are native speakers of French (a language similar to English in the relevant respects) and European Portuguese (a language different from English in the relevant respects), and (ii) a study on the impact of explicit grammar instruction on the acquisition of "narrow" syntactic and syntax-discourse properties of SVI by intermediate and low advanced Portuguese L2ers of English.

The former study tests participants by means of three types of tasks: untimed drag-and-drop tasks, syntactic priming tasks, and speeded acceptability judgement tasks. Their results confirm that, as predicted by the IH, the properties of SVI that are purely (lexical-)syntactic are unproblematic at the end state of L2 acquisition, but those which involve the interface between syntax and discourse are a locus of permanent optionality, even when the first language (L1) is similar to the L2. Results are, moreover, consistent with the prediction of the IH that the optionality found at the syntax-discourse interface is primarily caused by processing inefficiencies associated with bilingualism. In addition to presenting new experimental evidence in favour of the IH, this study reveals that the degree of optionality L2ers exhibit at the syntax-discourse interface is moderated by the following variables, which have not been (sufficiently) considered in previous work on the IH: (i) *construction frequency* (very rare construction → more optionality), (ii) *the quantity and/or distance of the pieces of contextual information the speaker needs to process* (many pieces of contextual information in an inter-sentential context → more optionality), (iii) *the level of proficiency in the L2* (lower level of proficiency → more optionality), and (iv) *the (dis)similarity between the L1 and the L2* (L1≠L2 → more optionality).

The study which concentrates on the impact of explicit grammar instruction on L2 acquisition follows a pre-test, treatment, post-test and delayed post-test design and tests participants by means of speeded acceptability judgement tasks. This study shows that explicit grammar instruction results in durable gains for L2ers, but its effectiveness is moderated by two factors: (i) the type of linguistic domain(s) involved in the target

structure and (ii) whether or not L2ers are developmentally ready to acquire the target structure. Regarding factor (i), research findings indicate that the area that has been found to be a locus of permanent optionality in L2 acquisition – the syntax-discourse interface – is much less permeable to instructional effects than "narrow" syntax. Regarding factor (ii), results suggest that explicit instruction only benefits acquisition when L2ers are developmentally ready to acquire the target property. As these findings are relevant not only to GenSLA theory, but also to L2 teaching, the thesis includes an analysis of the relevance and potential implications of its findings for L2 grammar teaching.

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A presente tese aborda dois tipos de interfaces que se tornaram recentemente áreas de interesse centrais na investigação desenvolvida em aquisição de língua segunda (L2) numa perspetiva generativista: (i) *interfaces linguísticas* – a interface sintaxe-discurso (o nosso foco principal de investigação) e a interface léxico-sintaxe na aquisição de L2 por adultos –, e (ii) uma *interface interdisciplinar* – a interface entre os domínios de aquisição e didática de L2. A tese pretende lançar nova luz sobre quatro questões que continuam a gerar muito debate no domínio de aquisição de L2: (i) Serão as propriedades "puramente" (léxico-)sintáticas completamente adquiríveis no estádio final de aquisição de L2, como a Hipótese de Interface (HI) (Sorace & Filiaci, 2006, Sorace, 2011b) propõe? (ii) Serão as propriedades na interface entre sintaxe e discurso necessariamente um locus de opcionalidade no estádio final de aquisição de L2, como a HI prediz? (iii) Quais são os papéis da influência da língua materna (L1), do input e de fatores de processamento na aquisição de L2 na interface sintaxe-discurso? (iv) Será que o ensino explícito ajuda os falantes de L2 a ultrapassarem problemas persistentes na aquisição de propriedades sintáticas e de sintático-discursivas?

A fim de investigar estas questões, a tese debruça-se sobre um fenómeno linguístico ainda pouco investigado no domínio de aquisição de L2: a inversão sujeito-verbo (ISV) em inglês L2. Três tipos de ISV são considerados aqui: (i) a inversão "livre" (e sua correlação com sujeitos nulos), (ii) a inversão locativa e (iii) construções com *there* com verbos que não *be* ('ser/estar'). A primeira é agramatical em inglês por um fator estritamente sintático: esta língua fixa o valor negativo para o parâmetro do sujeito nulo. Os dois últimos tipos de ISV, por seu lado, são possíveis em inglês em certas condições (léxico-)sintáticas e discursivas.

A tese compreende dois estudos experimentais: (i) um estudo sobre a aquisição das propriedades lexicais, sintáticas e discursivas da ISV por falantes avançados e quase nativos de inglês que têm como L1 o francês (uma língua semelhante ao inglês nos aspetos relevantes) e o português europeu (uma língua diferente do inglês nos aspetos relevantes) e (ii) um estudo sobre o impacto do ensino explícito de gramática na aquisição de propriedades "estritamente" sintáticas e sintático-discursivas da ISV por falantes de português europeu com um nível intermédio e avançado em inglês L2.

No primeiro estudo, os participantes são testados através de três tipos de tarefas: tarefas *drag and drop* não temporizadas, tarefas de *priming* sintático e tarefas de juízos de aceitabilidade rápidos. Em conjunto, os resultados destas tarefas confirmam que, como predito pela HI, as propriedades da ISV que são puramente (léxico-)sintáticas não são problemáticas no estádio final da aquisição de L2, mas aquelas que envolvem a interface entre sintaxe e discurso são um locus de opcionalidade permanente, mesmo quando a L1 é semelhante à L2. Os resultados são, além disso, consistentes com a proposta da HI de que a opcionalidade encontrada na interface sintaxe-discurso é causada (principalmente) por ineficiências de processamento associadas ao bilinguismo. Além de apresentar nova evidência experimental a favor da HI, este estudo mostra que o grau de opcionalidade que os falantes de L2 exibem na interface sintaxe-discurso é moderado pelas seguintes variáveis, que não têm sido (suficientemente) consideradas na literatura sobre a HI: (i) a *frequência da construção na língua alvo* (construção muito rara → mais opcionalidade), (ii) a *quantidade e/ou distância das informações contextuais que o falante precisa processar* (muitas informações contextuais no contexto inter-frásico → mais opcionalidade), (iii) *o nível de proficiência na L2* (menor nível de proficiência → mais opcionalidade), e (iv) *a (dis)semelhança entre a L1 e a L2* (L1 ≠ L2 → mais opcionalidade).

O estudo de intervenção didática compreende um pré-teste e dois pós-testes após a intervenção e testa os participantes através de tarefas de juízos de aceitabilidade rápidos. Este estudo mostra que o ensino explícito da gramática pode resultar em ganhos duradouros para os aprendentes de L2, mas a sua eficácia é moderada por dois fatores: (i) o tipo de domínio(s) linguístico(s) em que propriedade alvo se situa e (ii) o grau de *developmental readiness* dos aprendentes para adquirirem a propriedade alvo. Em relação ao fator (i), os resultados deste estudo indicam que a área que constitui um locus de opcionalidade permanente na aquisição de L2 – a interface sintaxe-discurso – é muito menos permeável a efeitos de ensino do que a sintaxe "pura". Em relação ao fator

(ii), os resultados sugerem que o ensino explícito facilita a aquisição de L2 apenas quando os aprendentes atingiram um estádio de desenvolvimento em que já lhes é possível adquirir a propriedade alvo. Como estes resultados são relevantes não só para a teoria de aquisição de L2, mas também para o ensino de L2, a tese inclui uma análise da relevância e potenciais implicações dos seus resultados para o ensino da gramática em L2.

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LIST OF ABBREVIATIONS

A-bar position	Non argument position
ADV L1 EP	Advanced Portuguese speakers of English.
ADV L1 FR	Advanced French speakers of English
AdvP	Adverbial phrase
Agr	Agreement
AgrP	Agreement phrase
A-position	Argument position
AspP	Aspect phrase
BP	Brazilian Portuguese
C	Complementizer
CALL	Computer-assisted language learning
CP	Complementizer phrase
D-feature	Definiteness feature
DP	Determiner phrase
EIAH	External Interface Acquirability Hypothesis
EP	European Portuguese
EPP	Extended Projection Principle
Fin	Finiteness
FPC	Focus Prominence Constraint
GenSLA	Generative Second Language Acquisition
I	Inflection
IH	Interface Hypothesis
IP	Inflectional phrase
L1 ENG	Native speakers of English
L1	Native language

L2	Second language
L2ers	Second language speakers and learners
LF	Logical Form
LIH	L1+Input Hypothesis
LOC	Covert locative argument
NN L1 EP	Near-native Portuguese speakers of English
NN L1 FR	Near-native French speakers of English
NNSL	Non-null subject language
NSL	Null subject language (Note that, from chapter 7 onwards, this abbreviation is used to refer specifically to consistent null subject languages)
NSP	Null subject parameter
NSR	Nuclear Stress Rule
O	Object
OPC	Overt Pronoun Constraint
PF	Phonological Form
PP	Prepositional phrase
REAF	Right Edge Alignment of Focus
SD	Standard deviation
SE	Standard error
SIH	Split Intransitivity Hierarchy
SLA	Second language acquisition
Spec	Specifier
SVI	Subject-verb inversion
T	Tense
TP	Tense phrase
UG	Universal Grammar

V	Verb
VP	Verb phrase
XP	X phrase

Chapter 1

Introduction

1.1. Background and scope of the thesis

Over the past four decades, generative second language acquisition (GenSLA) has become a very influential strand within SLA. This strand uses theoretical insights developed within generative linguistics to investigate the process of second language (L2) acquisition by children and adults.[1] Some of the generative constructs commonly used by GenSLA researchers include Universal Grammar (UG) (the innate system of linguistic categories, principles and parameters that predetermines the form and functioning of natural language grammars, constrains the ways in which they vary and restricts the "hypothesis space" available to the first language acquirer), principles (principles of UG that are invariant and hence true across languages), parameters (principles of UG with two built-in settings, a positive and a negative one, which allow for cross-linguistic variation) and the language faculty (an innate biologically endowed cognitive faculty specialised in language). The overall goal of GenSLA is to describe and explain the nature and acquisition of linguistic competence (i.e., the abstract, unconscious system of linguistic knowledge that underlies spontaneous comprehension and production) in L2s.

The focus of the research conducted within this strand of SLA has changed over time. In the 1980s and 1990s, studies concentrated on the syntactic component of L2 speakers/learners' (L2ers) competence (known as interlanguage competence) in order to examine questions related to first language (L1) transfer, parameter resetting, and the accessibility of UG (for an overview, cf. White, 2003b, 2012, 2013). Perhaps the most important finding of the research carried out during this period was that L2ers come to know subtle properties of the target language which could not have been acquired by observation of the input (both naturalistic input and classroom instruction) nor derived from their L1. This finding led most GenSLA researchers to conclude that the built-in system of universal linguistic categories, principles and parameters that is widely

[1] In this thesis, following proposals by Meisel (2008), Schwartz (2004) and Unsworth (2007) on the age boundaries between L1 bilingual acquisition and L2 acquisition, the term "L2" is used to refer to any additional language to which the speaker started to be exposed at or above the age of 4.

assumed to guide and constrain L1 acquisition – UG − continues to operate in L2 acquisition. According to them, this is the only possible way of accounting for L2ers' knowledge of the so-called poverty-of-the-stimulus properties (for further details, cf. White, 2003b).

Since the beginning of the 21st century, the focus of GenSLA research has shifted to the interfaces between syntax and other domains and the issue of ultimate attainment.[2] Much of the recent research on linguistic interfaces has been influenced by the Interface Hypothesis (IH), which was proposed by Sorace and Filiaci (2006) to account for the deviant behaviour found at the best attainable final state in L2 acquisition – the near-native level. In its current form, the IH claims that the properties which are narrowly syntactic or involve grammar-internal interfaces (e.g., syntax-semantics) are unproblematic in end-state grammars,[3] whereas the properties which involve the interface between syntax and grammar-external domains, namely discourse and pragmatics, are a locus of residual, but permanent, optionality[4] (Sorace, 2011c). The IH further proposes that this optionality arises because L2ers are less than optimally efficient at integrating syntactic and grammar-external information in real-time language use, which, in turn, is claimed to be a general effect of bilingualism[5] (Sorace, 2011a, 2011c, 2016). The predictions of the IH have been supported by numerous studies on the L2 acquisition of pronominal subjects and subject-verb inversion (SVI) in null subject languages (NSLs), such as Italian, Spanish and European Portuguese (EP) (cf. Sorace, 2011c, 2016). However, the studies which tested this hypothesis with other interface structures and language pairings have produced conflicting results regarding its validity. As a result, it remains unclear (i) whether narrow syntax and internal interfaces are fully acquirable in an L2, (ii) if the syntax-discourse interface is necessarily problematic at the end state of L2 acquisition, and (iii) whether the problems

[2] In SLA research, the term "ultimate attainment" refers to the outcome or end point of acquisition (Birdsong, 2004).

[3] In the literature, the term "end state" is used in two senses: (i) to refer to the non-native final state of the interlanguage grammars that permanently stabilised without reaching the highest possible level of proficiency in the L2 (e.g., Lardiere, 2007), and (ii) to refer to the best attainable final state of L2 acquisition (e.g., Sorace, 2005). In the present thesis, I use the term "end state" in the latter sense. As I assume with Sorace (2003, 2005) that the furthest attainable competence level in an L2 is the near-native competence, I use the terms "end state" and "near native" interchangeably.

[4] According to Sorace (2003), residual optionality is a phenomenon found at the final stages of L2 acquisition, whereby "a steady state is reached in which the target option is strongly but not categorically preferred and the nontarget option surfaces in some circumstances" (p. 140).

[5] Except where otherwise specified, the term "bilingualism" is used in this thesis in the broad sense of having two (or more) languages simultaneously active in the mind. From this perspective, L2ers represent one particular case of bilingualism.

at this interface stem from processing inefficiencies related to bilingualism, as the IH claims.

With a view to contributing to the advancement of the current understanding of the end state of L2 acquisition at the interfaces, the present thesis investigates the acquisition of SVI (i.e., structures where the subject appears to the right of the lexical verb) by advanced and near-native adult L2ers of English whose L1s are EP and French. Three phenomena are considered here: (i) "free" inversion (and its relation to the availability of null subjects), (ii) locative inversion, and (iii) *there*-constructions with verbs other than *be* (see examples (1)-(3)).

(1) ***"Free" inversion***

[Chegou] [uma carta].

arrived a letter

V S

(2) ***Locative inversion***

[In the forest] [lived] [a family of bears].

PP V S

(3) ***There-construction***

[There] [appeared] [a large ship] [on the horizon].

Expletive V S PP

The first type of SVI is ungrammatical in English due to a purely syntactic factor: this language fixes the null subject parameter (NSP) at a negative value. The last two types of SVI, on the other hand, are possible in English under certain lexical, syntactic and discourse conditions. Crucially, while French behaves very much like English with respect to the linguistic phenomena considered in this thesis, EP does not. Unlike English and French, this language allows "free" inversion and null subjects, admits locative inversion with all verb classes, and does not permit SVI with overt expletive subjects.

To the best of my knowledge, "free" inversion, expletive-associate inversion and locative inversion have never been investigated in the context of the acquisition of a non-null subject language (NNSL), like English, by near-native L2ers. Their acquisition in this context is nevertheless worthy of study for two main reasons. The first is that previous research on the development of SVI in L2 English brings the validity of the IH

into question by showing that the syntax of this word order is problematic for upper intermediate and advanced L2ers (Lozano & Mendikoetxea, 2008, 2010; Prentza & Tsimpli, 2013), while its discourse constraints are not (Lozano & Mendikoetxea, 2008, 2010), a finding that contrasts with what has been found in the context of the L2 acquisition of NSLs (e.g., Belletti, Bennati, & Sorace, 2007; Belletti & Leonini, 2004). The second reason is that, due to their low frequency in English, locative inversion and *there*-constructions (with verbs other than *be*) constitute appropriate grounds for testing the IH against an alternative hypothesis that has been gaining in popularity in very recent years, according to which a structure involving the syntax-discourse interface only gives rise to problems at a near-native level when L1 transfer is misleading and the structure is rare in the input (Domínguez & Arche, 2014; Slabakova, 2015a). Thus, the acquisition of SVI in L2 English – L1 EP / L1 French presents a particularly interesting testing ground for the existing hypotheses on the end state of L2 acquisition at the syntax-discourse interface.

By investigating these structures and language combinations, the present thesis seeks to shed new light on four general questions which are still a matter of debate in GenSLA: (i) Are narrow syntactic and lexical-syntactic properties unproblematic at the end state of L2 acquisition? (ii) Are properties at the syntax-discourse interface necessarily problematic at the end state of L2 acquisition? (iii) What are the roles of cross-linguistic, input and processing factors in L2 acquisition at the syntax-discourse interface? (iv) Can explicit instruction help L2ers overcome persistent problems in the acquisition of syntactic and syntax-discourse properties? As some of these questions are also relevant to L2 pedagogy, this thesis includes an analysis of the relevance and potential implications of its findings for L2 grammar teaching.

The present thesis, therefore, deals with two kinds of interfaces: (i) *linguistic interfaces* – the syntax-discourse interface (our main focus of research) and the lexicon-syntax interface in adult L2 acquisition – and (ii) an *interdisciplinary interface* – the interface between the fields of GenSLA and L2 pedagogy. Each of these types of interfaces is introduced in sections 1.2 and 1.3. The research questions of the thesis and the experiments which were conducted to address them are, then, briefly presented in section 1.4. This introductory chapter closes with an overview of the thesis (in section 1.5).

1.2. Linguistic interfaces

Linguistic interfaces are "points of interaction between modules or systems, where representations that are the output of one module or system must be interpreted by another" (Slabakova, Kempchinsky, & Rothman, 2012: 319). Two types of interfaces are usually distinguished: internal and external interfaces. The former link different modules within the faculty of language (e.g., lexicon-syntax), while the latter connect the language faculty to external domains such as discourse (Ramchand & Reiss, 2007; White, 2009, 2011b) . The construct of interface is thus anchored on a modular view of language. It presupposes that the human mind contains a cognitive module specialised in language, and further, that the language faculty itself comprises a number of sub-modules.

Although most experimental and theoretical linguistic work on interfaces is relatively recent, the concept of "interface" is not new. It has been used in linguistics since at least the onset of Chomsky's (1981, 1986) Government and Binding Theory. In fact, the model of grammar which was prevalent in the Government and Binding framework and the model later developed within the framework of the Minimalist Program (Chomsky, 1995) postulate two levels of interface, Phonological Form (PF) and Logical Form (LF), at which the representations generated by the syntactic computational system are legible to the articulatory-perceptual system and the conceptual-intentional system, respectively. According to these models, which are highly influential in generative linguistics, all representations must satisfy PF and LF demands to be legitimate and well-formed. This means that, from the perspective of generative linguistics, even if we can talk of "narrow" syntax, syntax does not operate alone. As Rothman and Slabakova (2011: 569) point out, "there must be a significant degree of integration across modules to fulfil language's functional purpose", which is "to permit correlations between the linguistic sign (e.g., sound) and the linguistic message (meaning)".

Neither Chomsky's models of linguistic interfaces nor the more fine-grained models later developed in the 21st century (e.g., Jackendoff, 2002; Reinhart, 2006) are strictly followed in the field of GenSLA. Instead of subscribing to a particular model, most researchers working on L2 acquisition at the interfaces borrow from the common ground that exists between the various theoretical models of interfaces (Rothman & Slabakova, 2011). Generally, GenSLA researchers assume that the language faculty

comprises a lexicon, morphology, syntax, semantics and phonology. The syntax is thought to lie at the heart of this faculty and to interface with the other grammatical modules as follows: the lexicon feeds syntax with lexical items. Syntax then combines these items into increasingly larger phrases by means of operations such as Merge, Move and Agree, in accordance with universal linguistic principles and language-specific parameters. The output generated by syntax – the complete syntactic tree – is, subsequently, passed on to the phonetic-phonological system for linearization and pronunciation and to the semantic system for interpretation.

In addition to interfacing internally with other modules of grammar, syntax interacts with two inter-related domains outside the language faculty − discourse and pragmatics. The constructions whose meaning computation and/or acceptability depend on information from previous or subsequent discourse context are claimed to involve the syntax-discourse interface (e.g., overt-null pronominal subjects in NSLs). On the other hand, those whose meaning is calculated on the basis of the situational context, knowledge of the world and universal pragmatic categories and principles are said to involve the syntax-pragmatics interface (e.g., scalar implicatures, deictic expressions) (cf. Rothman & Slabakova, 2011).

The view of language architecture that underlies most GenSLA research on linguistic interfaces is synthesised by the working model presented in fig. 1.1., which is taken from Slabakova (2016: 320). This is the interface design that is assumed in the present thesis.

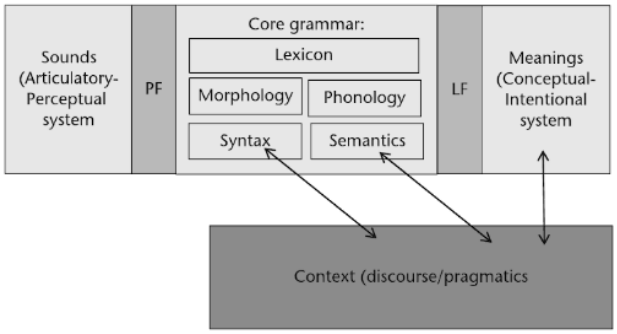

Fig.1.1. *A working interface depiction by Slabakova (2016: 320) based on White (2009)*

1.3. The interface between GenSLA and language pedagogy

For most of its history, GenSLA research has focused on questions pertaining to linguistic theory without making any attempt to explore the relevance and potential

implications of its findings for L2 pedagogy. The inexistence of clear pedagogical proposals in GenSLA studies, combined with the fact that these studies are not easy to follow and understand without some specialised training, may explain why language teaching theorists and practitioners generally do not even consider GenSLA as a useful and relevant area to L2 pedagogy. In the field of L2 pedagogy, typically, the only merit attributed to generative linguistics is the reconceptualization of language acquisition that it brought about:

> [Chomsky's linguistics] had an enormous influence on how people concerned with pedagogy thought about language. His insights effectively led to a fundamental reconceptualization of the nature of the language learning process, and consequently of how language was to be defined as a subject. It was Chomsky who challenged the orthodox pedagogic view of the time that learning was a matter of habit formation to be induced by pattern practice and structural drill whereby learners were constrained into conformity. He made us conceive of learning in a totally different way, as an essentially cognitive and creative process. (Widdowson, 2000: 29-30)

The Chomskyan revolution in formal and developmental linguistics and the fact that early SLA research showed that L2ers, like L1 acquirers, follow a pre-determined, universal route in the acquisition of certain grammatical features of the target language (e.g., Bailey, Madden, & Krashen, 1974; Dulay & Burt, 1973, 1974, 1975; Pienemann, 1984), which cannot be changed by explicit grammar instruction (e.g., Pica, 1983; Pienemann, 1984, 1989), contributed to a major change in L2 pedagogy: the movement away from grammar-based teaching approaches (e.g., grammar-translation and audio-lingual methods) to Communicative Language Teaching, a teaching approach that started to develop in the 1980s (Canale, 1983; Canale & Swain, 1980; Savignon, 1983) and is still prevalent in most (Western) countries, alongside Task Based Learning (see, for e.g., the influential reference publications by the Council of Europe (2001, 2018)).

Over the years, different versions of Communicative Language Teaching have been developed (for an overview of this approach, cf. Savignon, 2004; Whong, 2013b). Following Krashen and Terrell's (1988) Natural Approach, its strongest version regarded explicit grammar teaching as something unnecessary. The idea is that, with appropriate quantities of authentic comprehensible input and motivation to engage in communication, L2 acquisition can develop naturally. The "weak" version of Communicative Language Teaching, in contrast, acknowledges that some attention

should be given to grammar. The approach to explicit grammar teaching that is recommended within this framework is the so-called focus-on-form approach, which involves drawing L2ers' "attention to linguistic elements as they arise […] in lessons whose overriding focus is on meaning or communication" (M. Long, 1991: 45-46). Underlying the focus-on-form approach is the assumption that comprehensible input and communication are necessary but insufficient for L2 acquisition. Support for this view comes from the large body of research carried out in French Canadian immersion programs by Merrill Swain and colleagues (e.g., Swain, 1985; Swain & Lapkin, 1982), which showed that L2ers do not achieve high levels of grammatical accuracy by simply being exposed to rich and comprehensible input.

Although many L2 teaching theorists agree that explicit form-focused instruction should have a place in the classroom, modern L2 pedagogy has not given much attention to the teaching and learning of grammar. Its focus has been on the communicative and (inter)cultural dimensions of teaching and learning (see, for e.g., Byram, 1997; Kumaravadivelu, 2006). Due to this fact and the lack of dialogue between GenSLA researchers and L2 teaching theorists and practitioners, at present, there is a chasm between L2 pedagogy and GenSLA. For example, many of the linguistic properties which GenSLA researchers have consistently shown to be challenging for L2ers have not yet found their way into the pedagogical grammars which form the basis of most textbooks and of grammar teaching (e.g., SV-VS contrasts in NSLs). L2 pedagogy also continues to largely ignore a resource that GenSLA research has shown to have a significant role in the process of L2 acquisition – the L1.

In an effort to bridge the gap that currently exists between L2 pedagogy and GenSLA, in very recent years, some GenSLA researchers started to propose concrete pedagogical implications of their work and conduct classroom-based research informed by generative theory (e.g., Bowles & Montrul, 2008; Marsden & Slabakova, 2018; Rothman, 2010; Slabakova, 2014; Whong, Gil, & Marsden, 2013b). As a result, a new subfield of research has emerged within SLA: applied GenSLA (a term coined by Whong, 2013a). Applied GenSLA research explores the interface between GenSLA and language pedagogy with the ultimate goal of helping teachers to teach grammar in a way that enables L2ers to acquire it. Two assumptions underlie this strand of research. The first is that linguistic competence (in the generative sense) is the core competence that L2ers need to develop to be able to communicate spontaneously in the L2 and, for

this reason, it deserves more attention from language teaching theorists and practitioners. As Marsden and Slabakova (2018) emphasise, "no amount of learning strategies or motivation can propel the learner to meaningful communication in the second language without acquiring words, grammatical meanings and their expressions". The second assumption is that GenSLA research has yielded results that are relevant to L2 teaching in manifold ways: they can help teachers have more realistic and informed expectations of their students, comprehend their linguistic behaviour, decide what to teach and what not to waste time on at a given stage in the development of an L2, and teach grammar in a way that is more compatible with how it is acquired in the L2 (and, hopefully, more effective).

With a view to contributing to the development of applied GenSLA, the present thesis includes a teaching intervention study which investigates (i) whether features of language that are naturally acquired late can be developed at earlier points of L2 acquisition as a result of explicit grammar instruction and (ii) whether the areas which are a locus of persistent optionality can come to be known as a result of explicit grammar instruction. On the basis of our research findings, concrete pedagogical implications will be proposed.

1.4. Research questions and experiments: An overview

The present thesis addresses the following research questions:

i. Do near-native and/or advanced L2ers exhibit optionality with respect to the discourse-conditioned properties of locative inversion and *there*-constructions, regardless of whether their L1 is similar to or different from the L2?

ii. If advanced and/or near-native L2ers exhibit difficulties regarding syntax-discourse properties, are these difficulties an effect of bilingual processing or are they caused by other factors (e.g., L1 influence on linguistic representations)?

iii. Do near-native and/or advanced L2ers fully converge with English with respect to the (lexical-)syntactic properties of SVI and pronominal subjects, regardless of the properties of their L1?

iv. In advanced and near-native grammars of English, is there a correlation between ...

a. the (un)availability of referential null subjects and the (un)availability of "free" inversion in narrow focus contexts?

b. the (un)availability of null expletives/locatives and the (un)availability of "free" inversion in sentence focus contexts?

v. Does explicit grammar instruction (with naturalistic input, explicit positive and negative evidence and practice activities) help intermediate and low advanced Portuguese L2ers of English to converge with the target language regarding a problematic narrow syntactic property like the unavailability of "free" inversion in English?

vi. Does explicit grammar instruction (with naturalistic input, explicit positive and negative evidence and practice activities) help intermediate and low advanced Portuguese L2ers of English to eliminate or, at least, significantly reduce their optional behaviour regarding a linguistic phenomenon that involves the interface between syntax and discourse like locative inversion?

vii. Does the effectiveness of explicit grammar instruction vary according to the linguistic domain(s) involved in the target structure?

In order to investigate these questions, two experimental studies are conducted: a study on the acquisition of SVI by advanced and near-native L2ers of English who are native speakers of EP and French (research questions i – iv), and a study on the impact of explicit grammar instruction on the acquisition of SVI by intermediate and low advanced Portuguese L2ers of English (research questions v – vii). The latter study, which follows a pre-test, treatment, post-test and delayed post-test design, tests participants by means of speeded acceptability judgement tasks, because recent psychometric studies by Ellis (2005), Ellis et al. (2009) and Bowles (2011) validated these tasks (in their terms, timed grammaticality judgement tasks) as measures of implicit knowledge (i.e., linguistic knowledge which is unconscious and readily available for use in spontaneous production and comprehension) (for an overview, cf. Ellis, 2015). The former study, on the other hand, tests participants by means of three types of tasks: (i) untimed drag-and-drop tasks, (ii) syntactic priming tasks, and (iii)

speeded acceptability judgement tasks. These tasks were used because they place very different demands on L2ers' linguistic and cognitive resources. In fact, while drag-and-drop tasks allow for the application of explicit knowledge (i.e., conscious knowledge of linguistic rules) and do not impose significant strain on processing, syntactic priming tasks and speeded acceptability judgement tasks block interference from explicit knowledge and put considerable load on participants' processing resources. Since each of the structures considered in the study was tested by at least two types of tasks, its results will provide us with a fairly complete picture of what goes on in the grammar proper and at the syntax-discourse interface at both advanced and near-native levels.

1.5. Organisation of the thesis

The present thesis is divided into two parts. The first part, entitled "the lexical, syntactic and discourse properties of subject-verb inversion", describes the properties of SVI in English, French and EP, with a particular focus on locative inversion, expletive-associate inversion and "free" inversion. The second part, which is entitled "the L2 acquisition and teaching of subject-verb inversion and beyond", reviews previous GenSLA research on SVI and other interface phenomena, presents the hypotheses, methodology and results of the experiments conducted on the L2 acquisition of SVI and discusses their theoretical and pedagogical implications.

The first part comprises five chapters, which are organised as follows. Chapter 2 defines the notions of "information structure", "topic" and "focus". In chapter 3, I briefly summarise the classic and current accounts of the NSP, examine the relation between the (un)availability of null subjects and the (un)availability of "free" inversion, and present the working model of the NSP that is assumed in this thesis. Chapter 4 describes the (lexical-)syntactic and discourse constraints to which locative inversion and *there*-constructions are subject in English. In chapter 5, I present the constraints which govern locative inversion and expletive-associate inversion in French and identify the minor differences that exist between this language and English with respect to these linguistic phenomena. Finally, chapter 6 examines the properties of locative inversion and "free" inversion in EP. This chapter closes with a summary of the differences and similarities between EP, on the one hand, and French and English, on the other, with respect to the three types of SVI structures on which this thesis focuses: "free" inversion, expletive-associate inversion and locative inversion.

The second part of the thesis contains six chapters, which are organised as follows: chapter 7 critically reviews the most relevant findings of previous studies on the L2 acquisition of SVI, pronominal subjects and other structures at the syntax-discourse interface. In order to determine whether the syntax-discourse is more problematic than the interfaces which are internal to the language faculty, as the IH proposes, this chapter also reviews key findings of GenSLA research on the syntax-semantics interface, the syntax-morphology interface and the lexicon-syntax interface. In chapter 8, I present the research questions, hypotheses and methodology of the experiments which investigated the acquisition of SVI in advanced and near-native English. Chapter 9 reports the set of experiments which focused on "free" inversion, null subjects and their potential correlation. In chapter 10, I concentrate on the experiments which tested the acquisition of discourse-conditioned properties of locative inversion. Chapter 11 presents the experiments on the acquisition of the lexical-syntactic and syntax-discourse properties of *there*-constructions and discusses the results of all the experiments reported in chapters 9 to 11. Finally, in chapter 12, I report a follow-up study which investigated the impact of explicit grammar instruction on the acquisition of the following linguistic phenomena in L1 EP - L2 English: (i) the unavailability of "free" inversion, which is a narrow syntactic property that is shown to be acquired very late by Portuguese L2ers of English in chapter 9, and (ii) the distribution of intransitive verbs in locative inversion, which involves a three-way interface of lexicon, syntax and discourse and is shown to be an area of persistent optionality in chapter 10.

The concluding chapter of the thesis summarises the main findings of the experiments presented in part II, analyses their implications for L2 acquisition theory and L2 teaching practice, and proposes avenues for future research.

PART I:

THE LEXICAL, SYNTACTIC AND DISCOURSE PROPERTIES OF SUBJECT-VERB INVERSION

Chapter 2

Information structure: Key terms

2.1. Introduction

SVI structures typically have non-inverted counterparts which differ from them in the order of constituents, but, crucially, not in truth conditions and illocutionary meaning.[6] Compare, for example, the following minimal pairs of sentences in English, French and EP:

(1) a. i. A vase is on the table. ii. On the table is a vase.

b. i. Les grosses araignées apparaissent en septembre.
the big spiders appear in September
ii. En septembre apparaissent les grosses araignées.
in September appear the big spiders

c. i. O João gritou.
the João screamed
ii. Gritou o João.
screamed the João

In each pair, the non-inverted sentence (i) conveys the same meaning as the inverted sentence (ii), and there is no illocutionary difference between them: all the sentences are declaratives, which would normally be used as statements. Thus, these examples illustrate that syntax makes available different ways of conveying the same meaning.

Though (apparently) equivalent, pairs of sentences such as those in (1) do not occur in free variation in English, French and EP. There are discourse conditions that govern their distribution. As examples (2) to (4) show, typically, SVI structures only occur in discourse contexts where the subject is interpreted as non-presupposed information, i.e., when it is (part of) the focus. Their non-inverted counterparts, on the other hand, tend to occur when the subject is presupposed (for further details, see chapters 4 to 6).

[6] Not all SVI structures have a non-inverted counterpart. Bare existential sentences are a case in point. As shown in (i), the SV counterpart of a bare existential sentence is ungrammatical in English:

(i) a. There was an accident.
b. *An accident was.

(2) a. Vicky owns a mahogany table. On the table is a vase. / #[7]A vase is on the table.

b. Vicky owns a crystal vase. #On the table is the vase. / The vase is on the table.

(3) a. Quels animaux apparaissent en septembre? En septembre apparaissent les grosses araignées. / #Les grosses araignées apparaissent en septembre.
which animals appear in September? in September appear the big spiders / the big spiders appear in September

b. Que sais-tu à propos des grosses araignées? #En septembre apparaissent les grosses araignées. / Les grosses araignées apparaissent en septembre.
what do you know about big spiders? in September appear the big spiders / the big spiders appear in September

(4) a. Quem gritou? Gritou o João / #O João gritou.
who screamed screamed the João / the João screamed

b. O que fez o João? #Gritou o João / O João gritou.
what did the João screamed the João / the João screamed

Given that SVI is subject to constraints related to information structure, before we proceed to an analysis of the environments permitting this non-canonical word order in English, EP and French, it is important to clarify basic concepts associated with information structure, such as "focus" and "topic". This is the purpose of the present chapter, which is organised as follows: in section 2.2, I define the notions of "information structure", "focus" and "topic". Section 2.3 identifies two types of topic – "aboutness topic" and "stage topic" – and describes their characteristics. In section 2.4, I define key terms associated with the concept of focus, namely: "information focus", "identificational focus", "scope of focus", "nuclear stress" and "theticity". Finally, section 2.5 summarises the main points made in this chapter.

[7] In this thesis, I use the symbol '#' to mark discourse infelicity. The symbol '*' is used to mark that a sentence is ungrammatical. Finally, '??' is used to mark degraded or doubtful grammaticality.

2.2. Information structure, topic and focus

Information structure refers to the ways linguistically encoded information is "packaged" in a sentence to fit the discourse context and the knowledge states of the discourse participants (Chafe, 1976). Numerous theoretical approaches to information structure have been proposed over the past decades. Despite their differences, all of them recognise that in a sentence "there is some sort of informational split between a more informative part and a less informative part" (Vallduví, 1990: 35). To capture this division, various concurring concepts have been proposed, notably: topic-focus, theme-rheme, topic-comment, background-focus, among others[8] (for a comprehensive overview, see de Swart & de Hoop, 1995; Vallduví, 1990). In the present work, I adopt the view that topic[9] and focus are the two main components of the information structure of a sentence.

There is a great deal of debate on the precise definitions of these notions (cf. Gundel & Fretheim, 2008; Krifka, 2007; Lambrecht, 1994; Reinhart, 1981; among others). Frequently, topic is taken to be the part of the sentence which conveys discourse-old information (i.e., information explicitly introduced in or inferentially linked to prior discourse[10]), whereas focus is taken to be the part that conveys discourse-new information (i.e., information that is neither evoked in nor inferentially linked to prior discourse). This is because it is widely assumed that the notions of topic and focus are grounded, to some extent, in the discourse notions of old and new information. However, there is not always a one-to-one correspondence between them (cf. Reinhart, 1981; Vallduví, 1990; among others). Consider the following example:

(5) I can't find broccoli anywhere. [$_{\text{TOP}}$ Crack] they sell at every corner, but broccoli it's like they don't grow it anymore. (Vallduví, 1990: 25)

[8] Note that these terms are not synonymous.

[9] In this thesis, the term "topic" is used in the sense of "sentence topic" and not in the sense of "discourse topic". For details on discourse topics, see Reinhart (1981) and references therein.

[10] In line with previous work by Birner and Ward (e.g. Birner & Ward, 1998, 2008; Ward, Birner, & Huddleston, 2002), I assume that the information which is linked to prior discourse through such inferential relations as part/whole, type/subtype and possession is discourse-old. Consider the following example from Ward *et al.* (2002: 1368):

(i) I tried to get into the library after hours, but the door was locked.

In (i), there is a part-whole relationship between the door and the library. Consequently, it can be inferred that "the door" refers to the door of the library. Since the latter is mentioned in prior discourse, in (i), "the door" has the status of discourse-old information. In brief, as argued by Ward *et al.* (2002), the elements that stand in some salient and relevant relationship to elements that have been mentioned in prior discourse should be considered discourse-old, rather than new.

In (5), the topicalized constituent "crack", though a topic, does not represent old information. Rather, it constitutes discourse-new information, since it is neither introduced in nor inferentially linked to the prior discourse. This example demonstrates that, even though there is a strong tendency for topics to be discourse-old[11] and for discourse-new information to be part of the focus, this is only a matter of tendency: neither do topics always refer to old information, nor do discourse-new elements necessarily constitute foci (cf. Reinhart, 1981; Vallduví, 1990; among others). Consequently, it is not adequate to define the notions of "topic" and "focus" in relation to the categories of discourse-oldness/newness.

Following Chomsky (1971, 1976), Jackendoff (1974) and Zubizarreta (1998), among others, in the present thesis, I assume that focus and topic are best defined in relation to the notions of assertion and presupposition. Based on Lambrecht (1994), I define assertion as the proposition expressed by a sentence which the addressee is expected to come to know as a result of hearing/reading the sentence. Presupposition, in contrast, is "the set of propositions lexicogrammatically evoked in a sentence which the speaker assumes the hearer already knows or *is ready to take for granted* at the time the sentence is uttered" (Lambrecht, 1994: 52; emphasis added). In other words, a presupposed constituent conveys information that is taken for granted, but not necessarily discourse-old. On the basis of these notions of assertion and presupposition, the distinction between focus and topic can be made as follows: the focus is the non-presupposed, asserted part of the sentence, whereas the topic is a constituent which is part of the presupposition associated with the sentence.

Despite being closely associated, the binaries focus/topic and assertion/presupposition are distinct concepts. For example, a sentence may have a presupposition associated with it, but no topic (6). As shown in (7), even when a sentence does have a topic, this element does not include the entire content of the presupposition.

(6) A: What happened? B: [$_{FOC}$ Jennifer called John].
Presupposition: "event x happened"; Assertion: "x = 'Jennifer called John'"

(7) A: What did Jennifer do? B: [$_{Top}$ Jennifer] [$_{FOC}$ called John].

[11] It should be noted that topics are typically discourse-old due to independent reasons related to discourse cohesion (see Reinhart, 1981).

Presupposition: “Jennifer did action x”; Assertion: “x = ‘called John’”.

In conclusion, the evidence presented in this section shows that, even though the binary topic-focus is related to the notions of presupposition-assertion and old-new information, it does not fully coincide with them.

2.3. Types of topic

As a holistic definition of topic does not provide us with enough tools to examine the information structure status of SVI structures in English, EP and French, in the present thesis, I will not adopt a unified definition for this concept. Rather, following work by Erteschik-Shir (1997, 2007) and Lahousse (2003, 2011), I will make a distinction between two types of topics: (i) aboutness topics (or, in Erteschik-Shir’s terms, “individual topics”), which are the type of topic to which most authors simply refer as “topic”, and (ii) stage topics, which are often overlooked in the literature.

2.3.1. *Aboutness topics*

The definition of topic in terms of pragmatic aboutness goes back to Hockett (1958) and Strawson (1964), has been further developed by Reinhart (1981) and is currently adopted by many authors, notably Erteschik-Shir (1997, 2007), Krifka (2007) and Lambrecht (1994). It is consensual among these authors that an aboutness topic is a presupposed constituent about which the speaker adds information, i.e., makes an assertion. Therefore, this topic, like all types of topics, is always part of the presupposition associated with the sentence.

As observed by Lambrecht (1994) and Reinhart (1981), there is a strong tendency to interpret subjects as aboutness topics. For example, in a pair of logically equivalent sentences like (8), (8a) seems more appropriate than (8b) in a context where *Michael* is the referent about which the speaker intends to make an assertion.

(8) a. Michael married Jane.
b. Jane married Michael.

However, aboutness topics are not anchored to a particular syntactic position. Frequently, different constituents of the same sentence can serve as aboutness topics in different discourse contexts. Consider example (9):

(9) Robert called John.

This sentence can have either Robert or John as its aboutness topic. This is particularly clear when we apply the aboutness test proposed by Reinhart (1981: 64-65), which consists in embedding the sentence under analysis in a so-called "*about* sentence":

(10) a. He said about Robert that he called John.
b. He said about John that Robert called him.

Given that a sentence can have more than one candidate for the role of aboutness topic, a test like the one illustrated in (10) does not suffice to uniquely identify the aboutness topic of a sentence. A more fruitful procedure for detecting the information structure of a given sentence consists in imagining possible questions the sentence could answer. In a question-answer pair, the constituent under assertion in the answer replaces the *wh*-word in the question. Conversely, the constituents that do not replace the *wh*-word are part of the presupposition (cf. Zubizarreta, 1998). Hence, question-answer pairs can help us identify the presupposed elements about which an assertion is made.

Let us return to example (9). On the one hand, if (9) is uttered as an answer to the question "Who did Robert call?", "Robert" will be interpreted as the topic about which the assertion is made. On the other hand, if it constitutes an answer to "Who called John?", the presupposition associated with the sentence will be "individual x called John" and the assertion "x = Robert". Hence, in this discourse context, "Robert" will be the focus and "John" will be the aboutness topic of the sentence.[12] Note that, if uttered in response to a question like "What happened?", the whole sentence in (9) would be understood as the assertion. As a result, there would be no aboutness topics here. From this example two conclusions can be drawn. First, not all sentences have aboutness topics. Second, it is the discourse context in which a sentence is uttered that determines whether it has an aboutness topic and, if so, which constituent functions as the aboutness topic. In other words, as Reinhart (1981) observes, being the *topic of* a sentence "is a pragmatic relation, relative to a discourse" (p. 56).

In brief, an aboutness topic is the presupposed constituent about which something is asserted in the sentence. Prototypically, this type of topic is placed in the canonical subject position and refers to discourse-old referents. These tendencies, however, are neither necessary nor sufficient conditions for a constituent to function as the aboutness topic.

[12] Note that, in this case, "Robert" would receive a marked stress, as it would be interpreted as the focus.

2.3.2. *Stage topics*

The notion of stage topic was proposed by Erteschik-Shir (1997, 1999, 2007) on the basis of earlier work by Kratzer (1995) on spatio-temporal arguments. According to Erteschik-Shir, a stage topic is a type of topic which defines a spatial and/or temporal location. She argues that these topics are not admitted by all types of predicates. Assuming with Carlson (1977) and Kratzer (1995) that predicates fall into two classes – those that express temporary properties and events (stage-level predicates), and those that express more permanent properties and characteristics (individual-level predicates) –, the author claims that only the former can take stage topics.[13] Nevertheless, this view is challenged by examples such as (11), which prove that prototypical individual-level predicates, such as "to love" and "to hate", are also compatible with stage topics.

(11) Last year, John read a book by Chomsky. Since then, he loves/hates linguistics. (Adapted from Lahousse, 2003: 130)

Based on Erteschik-Shir's work (1997, 1999, 2007), and considering the topic-focus distinction spelled out in section 2.2, in this thesis, I take stage topics to be constituents that are presupposed (i.e., they convey information that the addressee either knows, by virtue of its discourse-old status, or is ready to take for granted) and define a spatio-temporal location. From this definition it follows that a temporal prepositional phrase (PP) such as "in 1945" has a different discourse status in the question-answer pairs (12a) and (12b). In (12a), the temporal PP "in 1945" is the focus, since it corresponds to the non-presupposed part of the sentence, i.e., the assertion. In contrast, in (12b), the same PP is a stage topic, because it is part of the presupposition associated with the sentence and specifies the temporal location of the event.

(12) a. A: When did the Second World War end? B: The Second World War ended in 1945.

a'. Presupposition: "The Second World War ended in date x"; Assertion: "x = in 1945"

b. A: What happened in 1945? B: In 1945 the Second World War ended.

[13] A number of grammatical phenomena have been shown to be sensitive to the stage-level/individual-level distinction (cf. Kratzer, 1995). For instance, it has been shown that only stage-level predicates can appear within small clause complements of perception verbs:

(i) a. I saw Peter drunk / I saw Peter kiss Jen.
b. *I saw Peter intelligent / *I saw Peter hate Mary.

b'. Presupposition: "event x happened in 1945"; Assertion: "x = the Second World War ended"

Stage topics and aboutness topics are not mutually exclusive. They can co-occur in the same sentence, as illustrated in (13).

(13) A: What did Elizabeth Taylor do in 1964? B: In 1964, Elizabeth Taylor married actor Richard Burton.

Here, the PP "in 1964" indicates the temporal stage at which the action denoted by the asserted part of the sentence (i.e., "married actor Richard Burton") took place, thus functioning as the stage topic. The determiner phrase (DP) "Elizabeth Taylor", on the other hand, constitutes the aboutness topic of the sentence, as confirmed by the aboutness test in (14).

(14) He said about Elizabeth Taylor that, in 1964, she married actor Richard Burton.

According to Erteschik-Shir (1997, 1999, 2007), stage topics can be not only overt, as in the examples examined so far, but also covert, as in the example below:

(15) A: What's going on? B: It's raining. [sTOP = here and now]

Here the assertion "it's raining" is made in relation to a spatio-temporal location which is taken for granted by the addressee (although it is neither explicitly mentioned in the discourse nor entirely inferable from the verb tense):[14] the here and now of the speaker. For this reason, Erteschik-Shir postulates that there is a covert stage topic in sentences like (15).

That this type of topic is necessarily associated with (15) is suggested by three pieces of evidence. First, when uttered in an out-of-the-blue context like the one in (15), the sentence "it's raining" is synonymous with (16), but, crucially, not with a sentence whose location is indeterminate, like (17).

(16) It's raining here now.

(17) It's raining somewhere now.

Second, this sentence can only be understood as not referring to the here-and-now of the speaker when an overt locative is present, as in (18), or when the sentence is embedded

[14] Only the temporal location of the action can be inferred from the use of the present progressive.

in a discourse context which induces a non-deictic interpretation, as in (19). Note that, in the latter case, there is an implicit location which is recoverable from the previous linguistic context.

(18) (A speaker in Lisbon says:) It's raining in Edinburgh.

(19) They have just arrived in Edinburgh and it's raining. [sTOP = in Edinburgh, now]

Third, the truth value of (15) can be challenged by a sentence like (20). Assuming that one can only deny something that is effectively part of the interpretation of a sentence, this fact provides robust evidence in favour of the claim that sentence (15) does have a covert stage topic, which is interpreted as the here-and-now of the speaker.

(20) No, it's not raining here right now (but it rained this morning / it's raining in my village).

On the basis of these pieces of evidence, it can be concluded that covert stage topics do exist. In line with previous work by Lahousse (2003, 2007, 2011), I consider that covert stage topics can be subdivided into two types, which I label "deictic stage topics" and "anaphoric stage topics". The former are interpreted as referring to the spatio-temporal location of the speaker, as in the case of (15). The latter, on the other hand, are interpreted in relation to the spatio-temporal parameters of the preceding linguistic context. This is what happens in (21):

(21) We arrived in Edinburgh this morning. It was raining. [sTOP = in Edinburgh, at the moment of the speaker's arrival]

In brief, for a (c)overt constituent to be a stage topic, it has to meet two requirements: (i) be part of the presupposition associated with the sentence, and (ii) specify a location. As shown above, there are three types of stage topics: (i) overt stage topics, (ii) covert anaphoric stage topics, and (iii) covert deictic stage topics.

2.4. Types of foci

Every sentence we utter must have a focus to fulfil its core communicative function: that of conveying some piece of information not presupposed by the addressee. In the extensive literature devoted to focus, various definitions have been proposed for this notion. Despite their differences, all definitions have one key

characteristic in common: they regard focus as the most informative part of the sentence. As focus is far from being a homogeneous phenomenon, it is regularly assumed in the literature that there are different types of focus (cf. Büring, 2012; Kiss, 1998; Zubizarreta, 1998; among others). In this study, following Kiss (1998), I will distinguish two types of focus: (i) information focus and (ii) identificational focus. I assume that these foci have two key characteristics in common: (i) they correspond to the non-presupposed, asserted part of the sentence, and (ii) they must contain the rhythmically most prominent word. What distinguishes each of these foci will be briefly described in the remainder of this chapter.

2.4.1. *Information focus*

In general terms, information focus is the part of the sentence that conveys non-presupposed information without expressing contrast or exhaustive identification on a set of contextually or situationally given entities. A typical test used to detect the information focus of a sentence is the construction of question/answer pairs. The function of the question is to isolate the part of the answer which is not presupposed, i.e., the assertion. As shown in (22), a sentence may have different focus assignments depending on the (implicit) question it answers.

(22) a. A: What happened? B: [$_{FOC}$ Kate ate the pie].
b. A: What did Kate do? B: Kate [$_{FOC}$ ate the pie].
c. A: What did Kate eat? B: Kate ate [$_{FOC}$ the pie].
d. A: Who ate the pie? B: [$_{FOC}$ Kate] ate the pie.

When only one constituent is focused, as in (22c-d), the scope of the focus is said to be narrow. Conversely, when more than one constituent of the sentence is focused, as in (22a-b), the scope of the focus is classified as wide. With respect to wide focus, an additional distinction must be made between predicate focus (22b) and sentence focus (22a) (terms proposed by Lambrecht, 1994). In the former case, only the verb phrase (VP) is interpreted as focus, whereas, in the latter, the whole sentence is focused.

Regardless of its size, the part of the sentence that is interpreted as focus must contain the rhythmically most prominent word, i.e., the word that bears the nuclear stress (cf. Reinhart, 2006; Zubizarreta, 1998; 2016; among others). As shown by Cinque (1993), in sentences with unmarked intonation, the nuclear stress is assigned via the

nuclear stress rule to the most embedded constituent of the sentence. For this reason, in an SVO sentence, it is the object that receives the neutral nuclear stress. In the light of this fact, and considering that the focus of a sentence must contain the rhythmically most prominent word, I assume along with Reinhart (1995, 1999, 2006) that an SVO sentence is associated with the following set of possible neutral foci, i.e., foci with a neutral stress pattern (the underlined word indicates the position of the nuclear stress):

(23) [$_{IP}$ My neighbour built a <u>desk</u>]
Focus set: {inflectional phrase (IP), VP, Object}

All constituents in the focus set of (23) contain the word that bears the neutral nuclear stress, i.e., "desk". They can be actual foci in the context of questions like (24a-c), but, crucially, not in the context created by the question (24d). This question requires an answer with focus on the subject. However, this focus option is not contained in the focus set defined by the neutral nuclear stress (23). In cases like (24d), two solutions are *a priori* possible to align focus with nuclear stress: either the focused subject has to be placed in the rightmost position or stress has to be shifted to a higher position. Languages with a relatively rigid nuclear stress position at the right edge of the clause, like EP, French and Romance languages in general, tend to adopt the first solution (25a-b) (cf. Belletti, 2005a, 2007; Nava & Zubizarreta, 2010; Zubizarreta, 1998; Zubizarreta & Nava, 2011), while languages with a more flexible nuclear stress, such as English, apply a stress-shift operation as a last resort strategy, thereby assigning a marked stress to the subject, as in (25c) (cf. Nava & Zubizarreta, 2010; Reinhart, 1995, 1999, 2006; Zubizarreta & Nava, 2011). The prosody of information focus can thus be summarised as follows: focused constituents must be prosodically prominent. If they are rightmost, they receive nuclear stress by default. If they are not in the rightmost position, they are assigned a marked stress via stress-shift.

(24) a. A: What happened? B: [$_{FOC}$ My neighbour built a <u>desk.</u>]
b. A: What did your neighbour do? B: My neighbour [$_{FOC}$ built a <u>desk.</u>]
c. A: What did your neighbour build? B: My neighbour built [$_{FOC}$ a <u>desk.</u>]
d. A: Who built a desk? B: #[$_{FOC}$ My neighbour] built a <u>desk</u>.
(adapted from Reinhart, 1995: 30-30)

(25) a. Quem construiu uma secretária? Construiu(-a) o meu vizinho.
who built a desk built (it) the my neighbour

b. Qui a construit le bureau ? C'était mon voisin (qui a construit le bureau).

who built the desk it was my neighbour (who built the desk)

c. Who built a desk? [$_{FOC}$ My neighbour] built a desk.

Contrary to what the account presented above suggests, in English, the nuclear stress does not always fall on the rightmost constituent of wide focus sentences. As Zubizarreta and Nava (cf. Nava & Zubizarreta, 2010; Zubizarreta, 1998; Zubizarreta & Nava, 2011) point out, this language displays variability in the placement of nuclear stress in the intransitive SV structures which are embedded in sentence focus contexts: sometimes the nuclear stress is assigned to the verb, i.e., the rightmost constituent, as in (26a), other times this stress falls on the subject, as in (26b-c). According to these authors, the different stress patterns illustrated in (26) mark the distinction between categorical and thetic statements. More precisely, they claim that, in sentence focus contexts, intransitive SV structures with nuclear stress on the verb are categorical statements, while intransitive SV structures with nuclear stress on the subject are thetic statements.

(26) a. A: Why does everybody look so surprised? B: Because a dog is singing.

b. A: Why are those children screaming? B: Because a dog is barking.

c. A: Why are you so happy? B: My friend arrived.

(Zubizarreta & Nava, 2011: 654)

The thetic *vs*. categorical distinction was first proposed by the 19th-century philosopher Franz Brentano and later revived in the field of linguistics by Kuroda (1972) and Sasse (1987).[15] According to the seminal work of Sasse (1987), which is followed by Zubizarreta and Nava, categorical statements attribute a property to an entity. Thetic statements, on the other hand, present a situation as a whole, without giving any type of informational highlighting to any sentence constituent (cf. also Cardinaletti, 2004; Kuroda, 1972, 1992, 2005; Leonetti, 2014; among others). In Sasse's (1987: 511) words, they are "nonpredicative assertions of state of affairs". According to this author, thetic statements can be divided into two types: (i) entity-central and (ii)

[15] The terms "thetic" and "categorical" originally referred to types of judgments, i.e., cognitive acts. However, with their transposition from the field of philosophy to the field of linguistics, they started to be widely used in association with the term "statement" as shorthand for "statement used to represent a thetic judgment" and "sentence used to represent a categorical judgment".

event-central thetic statements. The former "is a type of utterance stating the existence of an entity" (Sasse, 1987: 526),[16] while the latter "states the existence of an event" (Sasse, 1987: 526). Crucially, in both cases, thetic statements are interpreted as a single informational unit, without internal partitions.

In English, theticity can be encoded via prosody and syntax (cf. Sasse, 1987; Nava & Zubizarreta, 2010; Zubizarreta & Nava, 2011). At a prosodic level, theticity is marked through nuclear stress on the subject in sentence focus contexts, as in (26b-c), while categoricality is encoded through nuclear stress on the rightmost constituent, as in (26a). At a syntactic level, the only strategy of marking theticity available in English is to use structures such as impersonal constructions and *there*-constructions. Consider the following examples:

(27) a. It is snowing.
b. There is a man outside.

Both (27a) and (27b) are classified as thetic because they simply assert the existence of an entity or a situation. Note, however, that they are instances of two different subtypes of thetic statements. On the one hand, the impersonal sentence in (27a) constitutes an event-central thetic statement, since it reports an event − the event of snowing. On the other hand, the *there*-sentence in (27b) "introduces an entity but fails to report an event about it" (Sasse, 1987: 527), thus being classified as an entity-central thetic statement.

Unlike English, Romance languages cannot mark theticity prosodically, since they have a relatively rigid nuclear stress position at the right edge of the sentence. These languages resort to syntactic strategies to encode theticity. The Romance languages which have a negative setting for the NSP, such as French, use expletive-associate inversion, among other constructions (28) (cf. Lobo & Martins, 2017; Nava & Zubizarreta, 2010; Zubizarreta & Nava, 2011). Those which have a positive setting for the NSP, such as EP and Spanish, use VS orders (cf. Lobo & Martins, 2017; Nava & Zubizarreta, 2010; Zubizarreta, 1998; 2016; Zubizarreta & Nava, 2011). In categorical statements, all Romance languages use SV orders (cf. Lobo & Martins, 2017). Though SV orders can also receive a thetic interpretation (Kato & Martins, 2016; Lobo &

[16] Note that if an entity is involved in a thetically presented event, it is not picked out as the predication base; rather it is presented as part of the event, forming a unit with it.

Martins, 2017; Martins & Costa, 2016), only expletive-associative inversion and VS orders can make a sentence unambiguously thetic in these languages.

(28) a. Il est venu un ami.
EXPL is come a friend
b. Il y a un chien qui aboie.
EXPL has a dog that barks

One of the pieces of evidence that lend support to the claim that Romance NSLs exploit their flexible word order to encode theticity is the fact that, in a minimal pair of sentences like (29), the VS sentence does not pass the aboutness test discussed in section 2.3.1, but its non-inverted counterpart does. This is to be expected if, as various authors claim, VS is a syntactic strategy to unambiguously mark theticity. As previously explained, thetic statements do not admit any internal partitions. Consequently, no aboutness relations can be established within this type of statement.

(29) a. O telefone toca. ==> Ela disse acerca do telefone que ele toca.
the telephone rings she said about the telephone that it rings (=works)
b. Toca o telefone. =/=> Ela disse acerca do telefone que ele toca.
rings the telephone she said about the telephone that it rings (=works)

Thetic statements are only compatible with the following discourse contexts: sentence focus contexts or wide focus contexts related to a stage topic (cf. Lambrecht, 1994; Leonetti, 2014). This claim is supported by the felicity contrasts in the following question-answer pairs, which involve a type of structure that obligatorily receives a thetic reading in English − a *there*-sentence:

(30) a. A: Who is coming? B: #There is [$_{FOC}$ a <u>policeman</u>] coming.
b. A: What is a policeman doing? B: #There is a <u>policeman</u> [$_{FOC}$ coming].
c. A: Why are you looking outside? B: [$_{FOC}$ There is a <u>policeman</u> coming].

(31) A: What happened in 2016? B: [$_{sTOP}$ In 2016] [$_{FOC}$ there appeared a new trend in social media].

The *there*-construction is felicitous in the sentence focus context (30c), since it allows the sentence to be interpreted as a single informational unit, without internal partitions. Such thetic reading is blocked in the discourse contexts (30a) and (30b). In

fact, in (30a), the narrow focus context in which the sentence is embedded forces an identificational reading (in the sense of Lambrecht, 1994), in which the sentence must "identify the missing argument in a presupposed open proposition" (p. 222). The predicate focus context in (30b), on the other hand, implies that the existence of the entity "policeman" is presupposed, forcing a categorical reading of the declarative sentence, i.e., a reading where the subject is named and then something is predicated about that subject. In the light of these facts, and considering that *there*-constructions must receive a thetic reading, it can be concluded that the *there*-construction (30) is infelicitous in narrow focus and predicate focus contexts due to the incompatibility of these contexts with a thetic reading. This type of reading is only possible in sentence focus contexts, such as (30c), or in contexts where the only part of the sentence which is not focused has the discourse status of stage topic, as in (31).

Crucially, while it seems to be true that thetic statements typically occur in sentence focus contexts, it is not the case that all the sentences that receive sentence focus are necessarily interpreted as thetic. Through a series of experiments on the prosodic marking of the thetic *vs.* categorical distinction in English, Zubizarreta and Nava (Nava & Zubizarreta, 2010; Zubizarreta & Nava, 2011) found that, in sentence focus contexts, this distinction is dependent on a crucial factor: the type of verb. While transitive verbs receive a categorical interpretation, intransitive verbs do not exhibit a uniform behaviour. The division of intransitives into unaccusative and unergative verbs, which has been generally accepted in generative grammar since Burzio's (1986) incorporation of Perlmutter's (1978) Unaccusative Hypothesis into transformational terms, is crucial to account for their behaviour. On the one hand, unaccusative verbs – i.e., intransitive verbs whose sole argument is generated in object position and bears a theme or patient role (e.g., verbs of existence and appearance, like "come" and "appear", and verbs of change of state, like "break" and "die") − strongly favour a thetic interpretation. On the other hand, unergative verbs – i.e., intransitive verbs whose sole argument is generated in subject position, Spec(ifier), VP, and bears an agent role (e.g., "sing", "talk", "swim") − oscillate between a thetic and a categorical interpretation according to pragmatic properties like the degree of predictability and noteworthiness of the predicate in relation to the subject.[17] A sample of the results from Zubizarreta and

[17] Considerations of noteworthiness only influence the choice of stress pattern in intransitive SV structures whose verb is of the unergative type. Unaccusative verbs do not seem to be sensitive to the noteworthiness factor, as shown by the fact that all renditions of the token items below received nuclear

Nava's (2011) production experiment with native speakers of English is provided in (32) and (33). (The percentages indicate the amount of sentences produced with the nuclear stress pattern indicated.)

(32) ***Unaccusative verbs***

a. A: Why are you so happy? B: My friend arrived. (100%)

b. A: Why are the kids looking outside? B: A rabbit appeared. (100%)

c. A: What was that crashing sound? B: A window broke. (100%)

(Zubizarreta & Nava, 2011: 654)

(33) ***Unergative verbs***

a. A: Why are those children screaming? B: Because a dog is barking. (71%)

b. A: Why is everybody at the aquarium? B: Because a dolphin is swimming. (87%)

c. A: Why does everybody look so surprised? B: Because a dog is singing. (81%)

d. A: Why does everybody look so surprised? B: Because a dolphin was talking. (89%)

(Zubizarreta & Nava, 2011: 654)

In order to clarify how noteworthiness influences the choice of stress pattern in SV structures with unergatives, let us examine the examples in (33). In the sentences which have the stress pattern characteristic of thetic statements (33a-b), the unergative verb expresses an activity which is prototypical of the entity represented by the subject referent. For this reason, the agentivity of the verb is neutralised, allowing the sentences to merely assert the existence of the entities in question. In contrast, in the sentences which display the stress pattern associated with a categorical interpretation (33c-d), the unergative verb is pragmatically unexpected in relation to the subject, which renders the predicate highly noteworthy and, thus, incompatible with a unitary, thetic reading. That these interpretative differences between (33a-b) and (33c-d) do exist is proved by the fact that the former, but not the latter, can be replaced by an existential *there*-sentence

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stress on the subject in Zubizarreta and Nava's (Nava & Zubizarreta, 2010; Zubizarreta & Nava, 2011) experiments with native speakers of English:

(i) a. A: What happened? B: You won't believe it! The aliens arrived! (100%)
b. A: How was the parade? B: Not good. The police came! (100%)
(Zubizarreta & Nava, 2011: 654)

without losing their core meaning, as in (34). Taken together, the examples in (33) indicate that, when the unergative verb is unexpected and, consequently, noteworthy in relation to the subject, a categorical interpretation is favoured. On the contrary, when there is no asymmetry in terms of noteworthiness between the subject and the unergative, the unitary, nonpredicational thetic interpretation is chosen and, as a result, the nuclear stress is assigned to the subject.

(34) a. A: Why are those children screaming? B: Because a dog is barking. ≈ Because there is a dog (here).

b. A: Why is everybody at the aquarium? B: Because a dolphin is swimming. ≈ Because there is a dolphin (at the aquarium).

c. A: Why does everybody look so surprised? B: Because a dog is singing ≠ Because there is a dog (here).

d. A: Why does everybody look so surprised? B: Because a dolphin was talking. ≠ Because there was a dolphin (here).

To sum up, information focus conveys non-presupposed information without expressing contrast or exhaustive identification on a set of contextually or situationally given entities. It always corresponds to the non-presupposed, asserted part of the sentence and includes the word that bears nuclear stress. While Romance languages have a rigid nuclear stress position at the right edge of the sentence, English has a flexible nuclear stress. This language exploits its prosodic flexibility for two purposes: (i) to align the focused part of the sentence with stress whenever information focus is narrowed down to a subpart of the sentence that does not contain the word bearing neutral stress, and (ii) to mark the distinction between categorical and thetic statements in wide focus contexts. Romance languages, on the other hand, use syntactic solutions for both purposes.

2.4.2. *Identificational focus*

In addition to information focus, languages have at their disposal a type of focus which carries an exhaustive meaning – identificational focus. Following Kiss (1998), I will use the term "identificational focus" to refer to a constituent bearing the following semantic-communicative role in a sentence:

> An identificational focus represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the

exhaustive subset of this set for which the predicate phrase actually holds. (Kiss, 1998: 245)

In English, identificational focus is mainly realised in cleft sentences (cf. Kiss, 1998). The crucial difference between these sentences and simple declarative sentences is that the former, but not the latter, carry an exhaustive meaning. Consider, for example, the following minimal pair of sentences:

(35) What did Mary buy?
a. It was [$_{FOC}$ a shirt and a coat] that Mary bought.
b. Mary bought [$_{FOC}$ a shirt and a coat].

The cleft sentence (35a) means that Mary bought a shirt and a coat and nothing else. Thus, it has an exhaustive reading. In contrast, its non-cleft counterpart does not have such a reading; it simply means that Mary bought a shirt and a coat (among other things). In order to confirm this semantic difference, two tests may be used: (i) the entailment test and (ii) the lie test (Kiss, 1998; Lahousse, 2003, 2011; Szabolcsi, 1981).

The entailment test was developed by Szabolcsi (1981) on the basis of Hungarian data. It consists of a pair of sentences such as those in (36) and (37), where the only difference is that the focused constituent in the first sentence contains a coordinated DP, while, in the second sentence, one of the coordinated elements is omitted. Szabolcsi (1981) defends that, when the test demonstrates that the second sentence is not entailed by the first, this must be interpreted as evidence that the coordinated DP in the first sentence involves exhaustive identification, i.e., it carries identificational focus. Consider the tests in (36) and (37):

(36) a. Mary bought [a shirt and a coat].
b. ==> Mary bought [a shirt].

(37) a. It was [a shirt and a coat] that Mary bought.
b. =/=> It was [a shirt] that Mary bought.

The sentence (36b) is considered true when uttered in the same context as (36a), because (36a) entails (36b). However, this is not the case in (37). (37b) is not true when uttered in the same context as (37a). To be true, (37b) would have to include all the elements under focus in (37a). This can be interpreted as proof that the focus of the cleft in (37a) involves exhaustive identification, while the focus of its non-cleft counterpart

does not. The entailment test, therefore, confirms the claim that clefts carry identificational focus in English.

Another test often applied to check whether a constituent is interpreted as identificational focus is the lie test. This test was developed by Kiss (1998) on the basis of the assumption that one can only negate the elements that are effectively part of the interpretation of a sentence. The test involves setting up a context where a clause is negated, with a view to determining what precisely is negated. Let us examine the examples below:

(38) It was a shirt that Mary bought.

a. - No, she bought a coat, too.

b. - No, she bought a coat.

(39) Mary bought a shirt.

a. - #No, she bought a coat, too.

b. - No, she bought a coat.

On the one hand, the appropriateness of the answers (38b) and (39b) demonstrates that the referent identified by the DP, i.e., "the shirt", can be negated both in the cleft and in non-cleft sentences. On the other hand, the contrast between (38a) and (39a) shows that the insertion of the adverb "too", which serves to negate the exhaustiveness of the identification, is only possible in the cleft. The fact that the exhaustiveness of (38) may be negated indicates that exhaustiveness is part of the interpretation of this sentence. Hence, this lie test reveals that both sentences (38) and (39) identify the thing that Mary bought, i.e., "a shirt", but only the focus of a cleft implies that Mary bought a shirt and nothing else. Consequently, only the cleft carries identificational focus.

A notion often associated with "identificational focus" is that of "contrastive focus". Following Kiss (1998), I consider contrastive focus to be a particular case of identificational focus. This author advocates that identificational focus is contrastive "if it operates on a closed set of entities whose members are known to the participants of the discourse" (Kiss, 1998: 267), as in (40). A non-contrastive identificational focus, on the other hand, operates on an open (and implicit) set of entities (41). Unlike contrastive identificational focus, it does not identify the subset of entities with which it contrasts:

(40) a. I heard Mary invited John and Julie.

b. Mary only invited John (and not Julie).

(41) a. Who invited John to the party?

b. It was Mary who invited John to the party.

In conclusion, as shown above, identificational focus differs from information focus in that the former expresses a [+ exhaustive] and a [± contrastive] meaning, whereas the latter simply marks the non-presupposed nature of the information conveyed by the sentence, without expressing a contrastive or an exhaustive meaning.

2.5. Summary

To sum up, topic and focus are the two main components of the information structure of a sentence. In the extensive literature on information structure, there are various definitions for these concepts, but no general consensus about which ones are the most precise (for an overview of the literature, see, for e.g., Gundel & Fretheim, 2008). Following Chomsky (1971, 1976), Jackendoff (1974) and Zubizarreta (1998), in this thesis, I define focus as the non-presupposed, asserted part of the sentence, and take topic to be a constituent which is part of the presupposition. In line with Erteschik-Shir (1997, 2007), Lahousse (2003, 2011) and Kiss (1998), I distinguish the following types of topic and focus: aboutness topic *vs.* stage topic and information focus *vs.* identificational focus. These discourse notions are defined in this thesis as follows:

(42) ***Aboutness topic*:** It is a presupposed constituent of the sentence about which the speaker adds information, i.e., makes an assertion.

(43) ***Stage topic*:** It is a presupposed constituent that defines a spatio-temporal location.

(44) ***Information focus:*** It is the part of the sentence that conveys non-presupposed information without expressing a contrastive or an exhaustive meaning.

(45) ***Identificational focus:*** It is the part of the sentence that conveys non-presupposed information which "represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the exhaustive subset of this set for which the predicate phrase actually holds" (Kiss, 1998: 245).

Chapter 3

Subject-verb inversion and the null subject parameter

3.1. Introduction

SVI is not equally free in English, French and EP. While English and French only admit this type of word order in a limited number of constructions, like expletive-associate inversion and locative inversion (1), EP allows SVI to occur quite freely. In fact, unlike English and French, EP admits this word order with all types of verbs and without any overt element in the canonical subject position, as shown in (2). For this reason, in EP, SVI is said to be "free" from a purely syntactic point of view.[18]

(1) a. i. A boy arrived. ii. There arrived a boy.
b. i. Un garçon est arrivé. ii. Il est arrivé un garçon.
c. i. Ghandi lived here. ii. Here lived Ghandi.
d. i. Ghandi vivait ici. ii. Ici vivait Ghandi.

(2) a. A: Quem comeu o bolo? B: Comeu (-o) o Pedro / um rapaz.
b. A: Qui a mangé le gâteau? B: *L'a mangé Pierre / un garçon.
c. A: Who ate the cake? B: *Ate it Peter / a boy.
d. A: Quem chegou? B: Chegou o Pedro / um rapaz.
e. A: Qui est arrivé? B: *Est arrivé Pierre / un garçon.
f. A: Who arrived? B: *Arrived Peter / a boy.

According to classic analyses of the NSP, the availability of "free" inversion is among the cluster of properties that distinguish NSLs, like EP and Italian, from NNSLs, like English and French (cf. Burzio, 1986; Chomsky, 1981; Rizzi, 1982). Due to this fact, in the present chapter, I will present an overview of classic and new accounts of the NSP and examine its relation to the (un)availability of "free" inversion. The chapter is organised in the following way: in section 3.2, I summarise the classic analyses of the NSP developed by Burzio (1986), Chomsky (1981) and Rizzi (1982, 1986) within the Government and Binding framework (Chomsky, 1981). Section 3.3 briefly describes

[18] This type of inversion is not totally free as it is subject to discourse conditions. For further details, see chapter 6.

how this parameter has been reconceptualised within the framework of the Minimalist Program (Chomsky, 1995), and explores the relation between null subjects and "free" inversion on the basis of recent cross-linguistic studies. Lastly, in section 3.4, I present the model of the NSP which will be adopted in this thesis.

3.2. Classic analyses of the NSP

The NSP is one of the many parameters assumed to make up UG, i.e., the set of invariant principles and variant parameters that constrain all natural languages, which is part of our innate biologically endowed language faculty (Chomsky, 1981, 1986). The classic analyses of this parameter postulate that it has two open values: a positive and a negative value. According to these analyses, which were developed within the Government and Binding framework (Chomsky, 1981), the languages which fix the NSP at a positive value exhibit the following cluster of properties (cf. Burzio, 1986; Chomsky, 1981; Rizzi, 1982, 1986): (i) licensing of referential null subjects (3a); (ii) licensing of expletive null subjects (3b); (iii) lack of *that*-trace effects (3c); and (iv) "free" inversion (3d). As illustrated in (3), EP displays this set of properties, while French and English do not. For this reason, it is widely assumed in the literature that these groups of languages have opposite settings for the NSP: a positive setting in the case of EP and a negative setting in the cases of English and French.

(3)	a. i. (Nós) lemos o livro.	ii. *(Nous) avons lu le livre.	iii.*(We) read the book.
	b. i. (*Ele) está a chover.[19]	ii. *(Il) pleut.	iii.*(It) is raining.
	c. i. Quem achas que telefonou?	ii.*Qui crois-tu qu'a téléphoné?	iii.*Who do you think that has telephoned?
	d. i. Chegou o João.	ii. *Est arrivé Jean.	iii.*Arrived John.

It should, however, be noted that English and French do not always require subjects to be overtly expressed. They admit null subjects in some kinds of colloquial speech and in abbreviated styles of writing, such as diaries and short notes (Haegeman, 1990, 1999, 2013; Haegeman & Guéron, 1999). . In these contexts, where "pressures of

[19] It should be noted that overt expletive subjects are allowed in some EP dialects (Carrilho, 2005).

economy seem to overrule the 'core' grammar" (Haegeman, 1999: 132), null subjects can either be expletives (4a; 5a) or a 1st or 3rd person referential subject (4b-c; 5b-c).

(4) a. Started raining this P.M. (*Carolyn's diary*) (Haegeman, 2013: 89)

b. A very sensible day yesterday. Saw no one. Took the bus to Southwark Bridge... Saw a flight of steps down to the river. (*The diary of Virginia Woolf*) (Haegeman, 1990: 167)

c. Origo rather contorted: says Italy is blind red hot devoted patriotic; has thrown her wedding ring into the cauldron too. Anticipates a long war... (*Diary of Virginia Woolf*, V) (Haegeman, 2013: 89)

(5) a. Faudrait pas exagérer non plus
would-be-necessary not exaggerate either
'One should not exaggerate either'

b. Suis allée au magasin. (Haegeman, 1990: 173)
am gone to-the store
'(I) went to the store'

c. M'accompagne au Mercure (Haegeman, 2013: 90)
me accompany to-the Mercure
'He/she accompanies me to the Mercure'

In addition to being restricted to specific registers, these null subjects have a number of special properties which distinguish them from the null subjects found in NSLs (cf. Haegeman, 1990, 2000, 2013 for further details). For example, unlike the null subjects of these languages, the English and French null subjects are restricted to declarative root clauses, as shown in (6). Furthermore, while, in NSLs, null subjects are compatible with both argument and adjunct fronting, in English and French, they can only co-occur with fronted adjuncts. These facts indicate that the null subjects found in English and French and those found in NSLs constitute distinct syntactic phenomena. Consequently, sentences like (4) and (5) do not pose a problem to the claim that English and French have a negative setting for the NSP (cf. Haegeman, 1990, 2000, 2013, for details).

(6) a. (*I said that) went to the hospital.

b. (*J'ai dit que) suis allé à l'hôpital.

c. (Eu disse que) fui ao hospital.

(7) a. *This book, don't want it.
b. *Ce livre, ne le veux pas.
c. Este livro, não (o) quero.

(8) a. Next time you get to Kobe, want you to buy me an umbrella.
b. Tout de suite m'a parlé de ma visite chez elle dimanche
immediately me have talked about my visit to her Sunday
c. Na próxima vez que fores a essa loja, quero que me compres um guarda- chuva.
next time you go to that store, want that me buy an umbrella

(Haegeman, 2013, except for (8c))

In the classic analyses of the NSP, the cluster of properties associated with its positive and negative values are claimed to have a common underlying property: the presence / absence of a silent pronoun *pro* in the canonical subject position (Spec, IP), which is a position that must be filled in every sentence, according to the Extended Projection Principle (EPP) (Chomsky, 1982). Rizzi (1986) proposes that *pro* is an empty pronoun inherently unspecified for φ−feature values, which is subject to the following requirements: (i) formal licensing (i.e., a head must permit a *pro* within its governing domain and assign it Case), and (ii) content identification (i.e., a head must assign values to *pro*'s features). *Pro* can either be referential, as in (9a), or expletive, as in existential expressions with *haver* ('to have') like (9b). In the latter case, *pro* has to be formally licensed but not identified, since it does not have semantic content.

(9) a. Nós$_i$ adoramos animais. Por isso, *pro*$_i$ adotámos dois cães.
we love animals That's why *pro* adopted two dogs
b. *pro*$_{expl}$ há muitos cães que são abandonados pelos seus donos.
pro$_{expl}$ is many dogs which are abandoned by their owners

According to Rizzi's (1982, 1986) influential analysis of the NSP, the *pro* that fills the canonical subject position in "free" inversion structures like (3di) is of the expletive type. Rizzi claims that expletive *pro* is co-indexed with the post-verbal lexical subject and that nominative case is assigned to *pro* by inflection (I) and, subsequently, transmitted to its associate in post-verbal position. Therefore, this analysis predicts a strong correlation between the availability of expletive *pro* and the possibility of "free" inversion across languages.

In Rizzi's (1982, 1986) work on the NSP, it is proposed that the presence of a *pro* in finite clauses with SV orders such as (9) is made possible by the richness of verbal inflection. Rizzi advocates that a rich inflection[20] like that of EP (10a) has a pronominal status and a [+referential] feature, which enables the functional head I to license and identify[21] referential *pro* and to license expletive *pro.* According to him, when inflection has [+pronominal] and [-referential] features, it can only license expletive *pro*. Whenever inflection has neither one of these features, as in French (10b) and English (10c), *pro* is blocked altogether.[22] From this account, it follows that the underlying cause of the grammaticality contrasts in (3) is the +/- pronominal status of verbal inflection in EP, English and French.

(10) ***The present tense paradigm of the verbs* gostar, aimer *and* to like**

a. Eu gosto	b. J'aime[23]	c. I like
Tu gostas	Tu aimes	You like
Ele gosta	Il aime	He likes
Nós gostamos	Nous aimons	We like
Vós gostais	Vous aimez	You like
Eles gostam	Ils aiment	They like

In conclusion, in the classic analyses of the NSP, such as Rizzi's (1982, 1986), it is assumed that the relative richness of the inflectional paradigm of a language L determines the availability of referential *pro*. If referential *pro* is available in L, then other properties follow, notably expletive *pro* and "free" inversion.[24] Hence, verbal inflection is at the basis of the setting of the NSP.

[20] A language has rich inflection when its verbal inflection paradigm has a distinct form for each person/number combination.
[21] The content of *pro* is identified by the φ-features of I, via co-indexation.
[22] Rizzi argues that no language has [-pronominal] and [+referential] inflection, since "if an inflection cannot be pronominal, it cannot be referential either" (Rizzi, 1982: 143). This analysis thus assumes that there is an implicational relation between the availability of referential null subjects and the availability of expletive null subjects.
[23] Notice that *aime*, *aimes* and *aiment* are pronounced identically as /ɛm/. Hence, there are only three forms which are phonetically distinct.
[24] According to Rizzi (1982), a language without a referential *pro* may have an expletive *pro* and free inversion. He gives the example of the Paduan dialect.

3.3. Recent views on the NSP and its relation to "free" inversion

Since the publication of the classic works on the NSP summarised above, various alternative (and often conflicting) analyses of this parameter and of its relation to "free" inversion have been proposed. In spite of their differences, the most recent analyses of the NSP generally agree on two crucial points: (i) that the classic views on this parameter are too simplistic, and (ii) that the theory of *pro*, as formulated by Rizzi (1982, 1986), is not compatible with the recent minimalist approach to feature valuing (Chomsky, 1995, 2004).

The idea that the classic formulations of the NSP oversimplify linguistic facts is supported by a large number of studies conducted over the past thirty years or so. Gilligan (1987) was one of the first studies to empirically challenge the idea that all natural languages fall on one side or the other of the divide between the cluster [+ NSP] and the cluster [- NSP].[25] In this much commented-upon study, Gilligan tested the traditional formulation of the NSP against a sample of around one hundred languages and found that only four unidirectional correlations hold true cross-linguistically:

(11) ***Unidirectional correlations among NSLs found by Gilligan (1987)***

a. Referential null subjects → expletive null subjects

b. Free inversion → null expletives

c. Free inversion → no *that*-trace effects

d. No *that*-trace effects → expletive null subjects

Other studies on languages that were not considered in the original formulations of the NSP, such as Brazilian Portuguese (BP) (e.g., Figueiredo Silva, 1996) or Finnish (e.g., Holmberg, 2005), have also confirmed that the properties traditionally associated with the NSP do not cluster together as expected and that natural languages do not simply split into NSLs and NNSLs.

Four types of NSLs have been identified in the literature (cf. Roberts & Holmberg, 2010): (i) *radical NSLs*, i.e., languages that do not have any verbal inflection and allow both the subject and the object to remain unexpressed, such as Chinese, Japanese and Korean; (ii) *consistent NSLs*, i.e., languages with rich verbal agreement morphology and referential and expletive null subjects, such as Romance NSLs,

[25] The fact that natural languages do not split into NSLs and NNSLs was also acknowledged in the 1980s, for example, in Rizzi's theoretical work on the NSP.

Hungarian, Greek, among many others; (iii) *partial NSLs*, i.e., languages where null subjects are admitted in very restricted contexts, such as BP, Hebrew and Finnish; and (iv) *expletive NSLs*, i.e., languages where a referential subject cannot be null, but an expletive can, such as Dutch, German and Afrikaans. A typology of NSLs along these lines is (implicitly or explicitly) assumed in nearly all recent analyses of the NSP.

The analyses which were formulated after the advent of the Minimalist Program (Chomsky, 1995) not only reject the traditional view that the NSP is reducible to the binary [+NSP]/[-NSP], but also claim that Rizzi's theory of *pro* cannot be maintained if one is to adopt a minimalist approach to feature valuing. This approach postulates that formal features may be either interpretable or uninterpretable and that the latter features must be eliminated from the derivation before the LF interface. Part of the process of "eliminating" uninterpretable features, i.e., unvalued/unspecified features, involves assigning them values. Since the Minimalist Program assumes that the φ−features of I are uninterpretable and have to be valued by entering into an Agree relation with the interpretable subject DP (Chomsky, 2004), a minimalist theory of null subjects cannot maintain that, as Rizzi (1982, 1986) proposed, *pro* is an inherently unspecified pronoun which has to be specified by the φ−features of I without further stipulations.

In order to align the analysis of the NSP with the notion of interpretable and uninterpretable features proposed by the Minimalist Program, two main alternative views have been proposed in the literature (for an overview, cf. Camacho, 2013; D'Alessandro, 2015; Roberts & Holmberg, 2010): (i) the so-called "I-subject" view, according to which the rich agreement morphology on I is interpretable, functioning like a subject, and (ii) the *pro* view, according to which the agreement morphology on I is uninterpretable and needs to be valued by a null *pro* which enters the derivation with interpretable φ−features, just as an overt pronoun does.

The first view, which has its origin in Borer (1984), was mainly developed by Barbosa (1995) and Alexiadou and Anagnostopoulou (1998). According to them, in a rich agreement language, verbal agreement morphology has (pro)nominal properties, namely [+D(efiniteness)], [+interpretable φ−features] and potentially [+Case] (cf. Alexiadou & Anagnostopoulou, 1998), thus functioning like a referential pronoun. Due to this fact, in NSLs with rich agreement like EP, verb movement to the inflectional domain suffices to satisfy the EPP, which is here proposed to involve feature checking of a D-feature in the inflectional domain (cf. Alexiadou & Anagnostopoulou, 1998).

From this two theoretical consequences follow: (i) the EPP in the sense of Chomsky (1982) (i.e., the stipulation that Spec, IP must be filled) does not hold true universally; and (ii) a silent referential or expletive pronoun like *pro* is not needed to realise the subject function in clauses where the subject is not overtly expressed in the pre-verbal position. For this reason, the proponents of the "I-subject" view advocate contra Rizzi (1982, 1986) that there is no reason to postulate the existence of a *pro* in NSLs.

Based on the assumption that the EPP can be satisfied by V-to-I movement in consistent NSLs, Barbosa (1995) and Alexiadou and Anagnostopoulou (1998) defend that, in these languages, the subject has no motivation to raise to Spec, IP and will hence remain in a VP-internal position. In their analysis, the VP-internal position is the neutral A-position of subjects. Pre-verbal subjects are claimed to be left-dislocated and to occupy an A-bar position, as in clitic left dislocation structures. By implication, as any left dislocated element, these subjects are expected to occur only in contexts where the information structure of the sentence marks them as topics. Crucially, this analysis predicts a basic VSO word order for consistent NSLs. In other words, it predicts that apparent cases of "free" inversion are actually instances of the subject remaining in its canonical position inside the VP. In short, according to the I-subject view, the word order generally termed "free inversion" is actually the unmarked word order of consistent NSLs and a by-product of the fact that V-to-I movement can satisfy the EPP in these languages.

An alternative minimalist analysis of NSLs is put forth by Holmberg (2005), Sheehan (2007) and Roberts (2004, 2010). These authors propose that the agreement morphology on I is uninterpretable and, consequently, the EPP cannot be satisfied by V-to-I movement. According to them, in NSLs, this principle, which is defined by Roberts (2004) and Sheehan (2007) as an edge feature that forces I to have a specifier, is satisfied by movement of the overt subject or of a null pronoun to the EPP position. Hence, unlike the proponents of the I-subject view, these authors postulate the existence of a null subject *pro.*[26] This null subject is taken to be a specified pronoun which is deleted at PF. It is assumed that, like an overt pronoun, *pro* is specified for interpretable φ−features, moves to a specifier position in the inflectional domain and values the uninterpretable φ−features of I. As Holmberg (2005: 538) notes, "this implies that the

[26] Different authors use different terms to refer to this null subject: "ΦP" (Holmberg , 2005), "*pro*" (Roberts, 2010) or simply "null subject" (Sheehan, 2007). Here I use "*pro"* as a cover term.

nullness is a phonological matter: the null subject is a pronoun which is not pronounced". According to the PF-deletion analysis, among the languages where agreement is obligatory, only those where the head of the inflectional domain bears an unvalued D-feature encoding definiteness allow the deletion of null referential subjects at PF. In the absence of a D-feature on I, pronoun deletion can only result in a non-referential or generic null subject. Crucially, as Holmberg (2005) and Roberts (2010) point out, a D-feature is present in the inflection domain of languages with rich agreement, but not of those with impoverished agreement. As a result, only rich agreement languages can be consistent NSLs.

The PF-deletion analysis just sketched is formalised in slightly different ways by Holmberg (2005), Sheehan (2007) and Roberts (2010). For the purposes of the present thesis, it suffices to outline Sheehan's (2007) analysis, which was developed on the basis of an in-depth survey of Romance languages, including EP and French. Sheehan proposes that a referential null subject is a regular pronoun which has interpretable φ-features. According to her proposal, the pronoun moves from its base position to Spec, IP and values the uninterpretable features of I by entering an Agree relation with I. After application of Agree, originally valued features become indistinct from the features that were valued via Agree. For this reason, after Agree, the pronoun becomes indistinct from the head I, bearing a subset of its formal features. Assuming that economy principles determine that non-distinct features should not be realised twice at PF, Sheehan argues that the features of the specifier, which contains less information than the I head with which it agrees, are deleted at PF due to PF-economy principles. Based on Roberts (2004), she proposes the following mechanism of deletion under non-distinctness:

(12) ***Deletion under feature non-distinctness (where non-distinctness refers to the subset relationship):***
α deletes under non-distinctness of features with β only if β agrees with α. (Sheehan, 2007: 224)

According to Sheehan, as a full referential pronoun is a D-bearing element, it can only be deleted at PF under feature non-distinctness with I when I agrees with it in φ-features and bears an uninterpretable D-feature. If I lacks this feature, i.e., if I is defective, not fully inflected, or impoverished, then the full referential pronoun cannot be deleted at PF.

In Sheehan's PF-deletion account, expletive subjects are claimed to undergo a similar deletion process in the phonological component. It is here assumed (contra the I-subject view) that, in consistent NSLs like EP, there is a null expletive/locative which satisfies the EPP in the following structures: (i) sentences with weather predicates (13a); (ii) extraposition (13b); (iii) existential constructions (13c); (iv) raising constructions (13d); and (v) SVI in sentence focus contexts (13e). Although null expletives result from PF-deletion under feature non-distinctness, according to Sheehan, their availability is independent of the presence of a D-feature on I, because full expletives lack a D-feature. The availability of null expletives is argued to be exclusively determined by a PF-interpretability parameter on I, which requires/does not require Spec, IP to be spelt out at PF. Support for this proposal comes from the fact that there are some languages (e.g., BP) which allow null expletives but have neither rich verbal inflection nor null referential subjects (at least not in all contexts) (cf. Sheehan, 2007).

(13) a. Está a chover.
is raining

b. É óbvio que o João está com medo
is obvious that the João is with fear

c. Há pássaros no jardim.
have birds in the garden

d. Parece que o João está doente.
seems that the João is ill

e. A: O que aconteceu? B: Chegou o João.
what happened arrived the João

In the light of these empirical and theoretical considerations, Sheehan (2007) argues that the availability of null referential subjects and of null expletive subjects cannot be derived from a single macro-parameter and that a cluster of micro-parameters is needed to account for all possibilities. This position is also defended in subsequent work by Biberauer, Holmberg, Roberts, and Sheehan (2010). According to Sheehan (2007), at least, two interacting micro-parameters are required to capture the variation within Romance and between Romance NSLs and English regarding null subjects:[27] [28]

[27] An additional micro-parameter is proposed in Sheehan's (2007) work – the weak/strong nominative Case parameter. This micro-parameter is not discussed here because it is not directly relevant to the present work.

(14) ***Rich agreement parameter***

I lacks/bears an uninterpretable D-feature.

(15) ***PF-interpretability parameter***

I lacks/bears a *, where * requires the specifier of I to be spelt out at PF.

(Sheehan, 2007: 304)

According to this view, EP allows both referential and expletive null subjects, because I bears a D-feature and lacks a *, i.e., it does not require its specifier to be spelt out at PF. On the contrary, French and English block all types of null subjects, since I lacks a D-feature and bears a * in these languages.

Importantly, as Sheehan (2007) notes, this parametric system not only captures the properties of the languages that behave uniformly with respect to null subjects, but also accounts for two well-attested cross-linguistic facts: (i) the existence of non-consistent NSLs, such as BP, and (ii) the fact that the languages which have null referential subjects also have null expletives. The latter fact can be straightforwardly explained in the following way: if a language allows referential subjects to remain unexpressed (because I bears an uninterpretable D-feature), then it must not require Spec, IP to be spelt out at PF and, by implication, it must admit null expletives. The former fact, on the other hand, is explained by Sheehan as follows: BP lacks an uninterpretable D-feature on I, because it no longer is a rich agreement language as a result of the simplification to which its verbal inflection paradigm was subject throughout the 20th century (M E Duarte, 1995). For this reason, BP generally blocks the deletion of referential null subjects under non-distinctness.[29] However, since this language still lacks a PF requirement for Spec, IP to be spelt out, it retains its ability to license null expletives.

PF-deletion analyses of null subjects, such as Sheehan's (2007), predict, contra the I-subject view, that pre-verbal subjects canonically occupy an A-position (rather than a left-dislocated A-bar position) in consistent NSLs, thus substantiating the intuition and general consensus that SVO (rather than VSO) is the unmarked word order

[28] Sheehan (2007) does not hierarchize these micro-parameters. However, Roberts and Holmberg (2010) and Holmberg (2010) argue that clusters of micro-parameters should be hierarchically organised. Their argument is that the number of micro-parameters that have to be assumed "is so large that it compromises the explanatory power of parametric theory as (a component of) a theory of language acquisition, unless parameters form hierarchies" (Holmberg, 2010: 121).

[29] Null referential subjects are admitted in this language only in extremely restricted contexts. For details, cf. Sheehan, 2007.

of Romance NSLs, such as EP, Spanish and Italian. That this analysis makes right predictions about the syntax of Romance NSLs is suggested by two pieces of evidence: (i) in these languages, pre-verbal subjects are felicitous in contexts where left-dislocation is infelicitous, and (ii) SVO is obligatory in unmarked discourse contexts (except with certain intransitive verbs which Pinto (1997) calls "inversion verbs"[30]) (cf. Adragão & Costa, 2004; Costa, 1998, 2001, 2004; Costa & Duarte, 2002; Sheehan, 2004, 2007, 2010). To illustrate these points, let us consider the following examples from EP:

(16) A: O que é que aconteceu?
what happened
B: a. O Pedro partiu o braço.
the Pedro broke the arm
b. #Partiu o Pedro o braço.
broke the Pedro the arm
c. #O braço, o Pedro partiu-o.
the arm, the Pedro broke it

(17) A: O que é que aconteceu?
what happened
B: a. O João espirrou.
the João sneezed
b. #Espirrou o João.
sneezed the João

(Costa, 2004: 16)

As Costa (2004) notes, answers to the question "what happened?" are unmarked from the point of view of discourse, since all the constituents in such answers are interpreted as focus. In this unmarked discourse context, the SV(O) order is obligatory with transitive (16) and (most) intransitive verbs (17), but left-dislocation is not admitted, as shown in (16c). These facts are problematic for the I-subject view for two reasons. First, if pre-verbal subjects were left-dislocated and marked as topics, as this view predicts, we would expect them to be illegitimate in sentence focus contexts, just as the left-dislocated object in (16c) is. Second, if the VP-internal position were the A-position of subjects in consistent NSLs, as the I-subject view claims, then EP subjects

[30] For further details, see chapter 6.

should be able to stay in this base position and, by implication, a VS word order should be found in (16) and (17), contrary to fact. Crucially, these word order facts can be straightforwardly accounted for by an analysis like Sheehan's (2007) which assumes that the pre-verbal subject moves to Spec, IP and that, as a corollary, SVO is the unmarked word order in these languages. In view of these facts, I assume along with Costa (2001, 2004) and Sheehan (2004, 2007, 2010) that, contrary to what the I-subject view predicts, pre-verbal subjects do not have an A-bar status in Romance NSLs, like EP, and that SVO is the unmarked word order of these languages.

It should be noted that, contrary to what is implied by some analyses formulated within the I-subject framework, "free" inversion is not a free occurring word order in Romance NSLs. Rather, it is subject to discourse conditions and restricted to the following contexts (cf. Costa, 1998, 2004; Pinto, 1997; Sheehan, 2007, 2010, among many others): (i) narrow subject focus contexts, and (ii) sentence focus contexts. In the former, inversion is admitted with all types of verbs (18), while, in the latter, it is only possible with certain intransitive verbs (19).[31] In recent years, the researchers who do not adhere to the I-subject account have put forward different views on the relation between these instances of inversion and the NSP. What they have in common is that they postulate, contra Rizzi (1982, 1986), that the canonical subject position of "free" inversion structures is not always occupied by an expletive *pro*.

(18) a. Quem chegou? i. Chegou o João. ii. #O João chegou.
who arrived arrived the João the João arrived

b. Quem gritou? i. Gritou o João. ii. #O João gritou.
who screamed screamed the João the João screamed

c. Quem comeu o bolo? i. Comeu (-o) o João. ii. #O João comeu(-o).
who ate the cake ate (it) the João The João ate (it)

(19) a. O que aconteceu? i. Chegou o João. ii. O João chegou.
what happened arrived the João the João arrived

b. O que aconteceu? i. #Gritou o João. ii. O João gritou.
what happened screamed the João the João screamed

c. O que aconteceu? i. #Comeu o bolo o João. ii. O João comeu o bolo.

[31] A more detailed account of the types of verbs with which SVI is allowed in sentence focus contexts is provided in chapter 6.

what happened ate the cake the João the João ate the cake

In her study on Romance languages, Sheehan (2007, 2010) argues that the only context in which "free" inversion is licensed via the movement of a null locative/expletive to Spec, IP is the one where the whole sentence is interpreted as focus. According to her, in narrow focus contexts, null subjects are not present in the derivation of VS orders. Sheehan proposes that, in such contexts, "free" inversion is the result of verb movement to Top, in the case of EP, or the spelling out of a low copy for prosodic reasons, in the cases of Spanish and Italian. From this view, it follows that "it is the availability of VS structures in wide scope [in our terms, sentence focus] contexts which are the true correlate of the NSP" (Sheehan, 2007: 194).

A different view is put forward by Costa and Figueiredo Silva (2006), who argue that the availability of "free" inversion both in narrow and sentence focus contexts depends upon the availability of null subjects. They reach this conclusion on the basis of a comparative analysis of two varieties of Portuguese: BP and EP. As previously noted, EP is a consistent NSL and, as such, admits both referential and expletive null subjects. BP, on the other hand, has lost referential null subjects in most contexts but retained its ability to license expletive null subjects (cf. M. E. Duarte, 1995). Significantly, these two varieties of Portuguese behave differently with respect to "free" inversion: EP admits this word order in narrow and sentence focus contexts, whereas BP only allows it in sentence focus contexts, as illustrated in (20) and (21).

(20) A: Quem chegou?
who arrived
B: a. Chegou o João. (EP/#BP)
arrived the João
b. O JOÃO[32] chegou. (#EP/BP)
THE JOÃO arrived

(21) A: O que aconteceu?
what happened
B: a. Chegou o João. (EP/BP)
arrived the João
b. O João chegou. (EP/BP)

[32] UPPERCASE lettering indicates marked stress.

the João arrived

(Costa & Figueiredo Silva, 2006: 86)

Costa and Figueiredo Silva (2006) defend that the differences exemplified in (20) and (21) are caused by the fact that each subtype of "free" inversion correlates with distinct subtypes of null subjects. More specifically, according to them, EP and BP admit "free" inversion in sentence focus contexts, because, in this structure, the canonical subject position, Spec, IP, is occupied by expletive *pro* (22a), which, as noted above, is a type of null subject licensed by both languages. In contrast, in the VS structures where the subject is narrowly focused, Spec, IP is empty (22b) and the *in-situ* subject checks Case under Agree. Costa and Figueiredo Silva advocate that Spec, IP can only be left empty in languages which allow referential null subjects, and that, consequently, the differences between BP and EP regarding inversion with narrowly focused subjects stem from the fact that the latter language consistently allows referential null subjects whereas the former does not (for details, see Costa & Figueiredo Silva, 2006). Thus, their analysis makes two testable predictions: (i) that, for "free" inversion to be possible in sentence focus contexts in a language L, L must license expletive null subjects, and (ii) that, for "free" inversion to be available in narrow subject focus contexts, L must also license referential null subjects.

(22) a. [$_{IP}$ *pro* V [$_{VP}$ t$_{V}$ DP]]
b. [$_{IP}$ V [$_{VP}$ Subj t$_{V}$]]

Like Costa and Figueiredo Silva (2006), Belletti (2005a, 2005b) defends that the availability of inversion in a narrow focus context depends on the availability of referential null subjects. While Costa and Figueiredo Silva (2006) propose an analysis in which the syntactic component does not include discourse primitives and uses its own tools to generate convergent outputs, which are then filtered or selected by interface constraints, Belletti develops a cartographic account for this correlation, in which discourse notions like focus are encoded in syntax as functional categories. According to her, the low part of the clause contains a VP periphery along the lines in (23), which is activated in "free" inversion structures like (18):

(23) [$_{CP}$...[$_{TP}$...[$_{TopP}$ Top [$_{FocP}$ Foc [$_{TopP}$ Top ... VP]]]]]

In Belletti's cartographic analysis, the post-verbal subject of sentences like (18) is argued to fill the specifier of a low focus position in the VP periphery and a silent *pro* is

taken to fill the subject position of the clause. Unlike traditional accounts of the NSP like Rizzi's (1982), Belletti defends that this *pro* is not of the expletive type, but rather a referential *pro*. She suggests that the post-verbal subject and *pro* may be generated as parts of a "big DP" (Belletti, 2005b), as is the case with strong pronoun doubling structures. According to this view, the features of the lexical subject are inherited/copied onto *pro* in the original big DP. Then, when the two parts of this big DP split in the course of derivation, the lexical subject moves to a focus position, while *pro* moves to the EPP position where it checks Case.

Building on Belletti's account, Nicolis (2008) further speculates that doubling configurations only occur in structures where a focal interpretation forces movement of an XP to a focus projection, as in "free" inversion in the context of narrow focus and in the strong pronoun doubling structure. Therefore, if the subject stays *in situ*, as he assumes to be the case in VS structures like (19a), the doubling configuration cannot occur. Given that, for a *pro* to be referential, its features have to be copied from a doubler, when the doubling configuration cannot be activated, only an expletive *pro* can occur in the inversion structure. In brief, just like Costa and Figueiredo Silva's (2006) analysis, Nicolis's account predicts a correlation between referential *pro* and inversion in narrow focus contexts, on the one hand, and between expletive *pro* and inversion in sentence focus contexts, on the other.

These correlations are confirmed by empirical evidence not only from BP, but also from a wide range of non-consistent NSLs. Pratas (2002) and Costa and Pratas (2004), for example, show that Cape Verdean Creole has expletive but not referential null subjects and that, just like BP, this language only allows SVI in contexts where Spec, IP is filled by the expletive *pro*. Likewise, in an extensive survey of various creole languages, Nicolis (2005, 2008) found that languages which have expletive null subjects but disallow referential null subjects block what he calls "genuine cases of free inversion", i.e., inversion in contexts other than sentence focus contexts.

There are, however, some cross-linguistic data which seem to challenge the hypothesis that the availability of "free" inversion across all discourse contexts correlates with the availability of referential and expletive null subjects. For example, in his extensive cross-linguistic study, Gilligan (1987) reports that Babungo, Duka, Yebamasa, Icelandic and Tagalog display "free" inversion, despite not having referential null subjects. Bringing Gilligan's claims into question, Nicolis (2008) argues

that Icelandic does not have "genuine free inversion" and that, though possible, inversion is restricted to sentence focus contexts in this language (cf. Nicolis, 2008). Nicolis further suggests that Gilligan's classification may be wrong with respect to other languages, such as Taglog. Hence, no firm conclusions can be drawn on the basis of Gilligan's data.

Besides the cases just mentioned, in the literature, there have been reports of other cases which also cast doubt on the universality of the correlation between null subjects and "free" inversion, by showing that some languages allow referential null subjects, but disallow "free" inversion. According to Belletti and colleagues (Belletti et al., 2007; Belletti & Leonini, 2004), Bantu languages are such a case. Based in part on this empirical evidence, Belletti and colleagues claim that referential *pro* is a necessary, but not sufficient condition for "free" inversion to occur in narrow focus contexts. According to them, activation of the clause internal VP periphery is also necessary. For this reason, they advocate that the correlation between null subjects and "free" inversion in narrow focus contexts is weak. Interestingly, recent work by Van der Wal (2012) on Bantu languages shows that at least some of these languages, most notably Matengo, admit inversion in both narrow and sentence focus contexts. Van der Wal's findings, therefore, suggest that, even in Bantu languages, there are cases where the correlation between null subjects and "free" inversion is strong.

In conclusion, the cross-linguistic facts presented above indicate that much research will have to be done before we can reach firm conclusions on whether or not the correlation between null subjects and "free" inversion is universal. Nevertheless, in the face of the empirical evidence provided by English, Romance NSLs, French, BP and Creole languages, in the present thesis, I will assume that, as suggested by Costa and Figueiredo Silva (2006), Belletti (2005a, 2005b) and Nicolis (2008), the following correlations hold:

(24) a. The licensing of null expletives/locatives is a necessary condition for "free" inversion to be possible in sentence focus contexts.
b. The licensing of referential null subjects is a necessary condition for "free" inversion to be possible in narrow subject focus contexts.

I will further assume along with Sheehan (2007) that (i) the availability of null expletives/locatives is dependent on the negative setting of a PF-visibility condition on Spec, IP, and that (ii) the availability of referential null subjects depends not only upon

a negative setting for that PF-visibility condition, but also upon the presence of an uninterpretable D-feature on I. This, in turn, means that the NSP is here assumed to be a cluster of micro-parameters, rather than a macro-parameter with just two open values.

3.4. A side note: The division of labour between overt and null subjects

It is important to note that null expletive and referential subjects differ not only with respect to the micro-parameters responsible for their syntactic licensing, but also with respect to their distribution in NSLs. As shown in examples (3ai) and (3bi), repeated under (25) for ease of exposition, while expletive subjects are typically null in these languages, referential subjects can be either overt or null.

(25) a. (Nós) lemos o livro.
b. (*Ele) está a chover.

The division of labour between null and overt referential subjects is mainly determined by the following extra-syntactic factors:

i. *Discourse factors* – null subjects are typically produced when the topic is maintained, as in (26a), while overt subject pronouns are used when there is a change of topic, as in (26b). These differences in production are accompanied by differences in sentence interpretation. According to the Position of Antecedent Hypothesis (Carminati, 2002), null subject pronouns are assigned to the antecedent in Spec, IP (which tends to be interpreted as topic), while overt subject pronouns are typically assigned to a non-subject antecedent (the complement or an extra-linguistic referent).

(26) a. **O João$_{i}$** não vê o irmão$_{j}$ desde que ***pro*$_{i/\#j}$** emigrou.
the João not see-PRS.3SG the his brother since *pro* emigrate-PST.3SG
b. O João$_{i}$ não vê **o irmão$_{j}$** desde que **ele$_{j/k/\#i}$** emigrou.
the João not see-PRS.3SG the brother since he emigrate-PST.3SG
'João hasn't seen his brother since he emigrated'

ii. *Semantic factors* – in EP (and possibly in other NSLs), overt subject pronouns are generally required to be [+animate] (see example (27)). As a consequence, the subject pronouns which refer to [-animate] antecedents are almost always null (cf. Barbosa, Duarte, & Kato, 2005; Morgado, Costa, & Luegi, 2014; Morgado, Lobo, & Luegi, 2017).[33]

[33] Note, however, that [-animate] overt subject pronouns are not completely banned from EP. They are acceptable in very rare cases, such as (i), which are still not well understood.

(27) a. O João leu que **o tsunami de 2004$_i$** foi o desastre natural mais mortal da história. No total, ??**ele$_i$** tirou a vida a 230 000 pessoas.
the João read that the tsunami of 2004 was the disaster natural more deadly of-the history. In-the total he took the life of 230 000 people
'João read that the 2004 tsunami was the deadliest natural disaster in history. In total it killed 230 000 people'

b. O João leu que **Jack o estripador$_i$** é um dos criminosos mais famosos de sempre. No total, **ele$_i$** tirou a vida a 5 pessoas.
the João read that Jack the ripper was one of-the criminals most famous of all-time. In-the total he took the life of 5 people
'João read that Jack the ripper is one of the most infamous criminals of all time. In total he killed 5 people'

In addition to these extra-syntactic factors, there is a morphosyntactic factor that influences the distribution of overt and null referential subjects (though to a lesser extent) – the presence/lack of ambiguity in verbal agreement morphology. In consistent NSLs, like EP, when verbal agreement morphology is ambiguous between two or more interpretations and, consequently, unable to unambiguously identify the referent of a null subject, overt subjects tend to be preferred over null subjects. This is illustrated in example (28), where the verb *repita* 'repeat' is ambiguous between a 1st and a 3rd person singular interpretation. Crucially, note that here the use of a null subject is only marginally infelicitous.

(28) O João falou baixo. Querem que eu / ele / #*pro* repita a resposta?
the João speak-PST.3SG quietly. want-PRS.3SG that I / he / *pro* repeat-SBJV.1SG/3SG the answer
'John spoke quietly. Do you want me / him to repeat the answer?'

In brief, while syntax is responsible for licensing null subjects, discourse, semantics and even morphology determine their distribution in consistent NSLs (for a detailed overview, cf. Lobo, 2013, 2016). Put differently, null subjects involve the interface between syntax and both grammar-internal and grammar-external domains.

(i) Se os aprendentes de L2 exibirem **problemas$_i$**, serão **eles$_i$** um efeito de ineficiências de processamento?
'If L2 learners exhibit problems, will they be an effect of processing inefficiencies?'

3.5. Summary

To sum up, the fact that SVI is not equally free in English, French and EP − the three languages on which the present thesis focuses − is related to a macro-parametric difference: EP fixes the NSP at a positive value, while English and French have a negative setting for this parameter. As shown throughout this chapter, the NSP has evolved over time because of empirical and theory-internal considerations. Nonetheless, many of the observations made in classic analyses, such as Rizzi's (1982, 1986), are still at the core of the more recent understanding of this parameter. The recent views on the NSP can be divided into two main groups: one which is in favour of *pro* (e.g., Holmberg, 2005; Roberts, 2004, 2010; Sheehan, 2007, among others) and another which is against the postulation of *pro* (e.g., Alexiadou & Anagnostopoulou, 1998, among others) and controversially predicts an unmarked VSO word order for consistent NSLs like EP. As I have argued, the latter analysis makes wrong predictions about the syntax of EP and other Romance NSLs. For this reason, I reject it in favour of the *pro* view. With regard to word order, I adopt the view that SVO is the unmarked word order of Romance NSLs (cf. Costa, 1998, 2004; Sheehan, 2007, 2010), and that the possibility of "free" inversion in these languages depends on the availability of null subjects.

Following Roberts and Holmberg (2010) and Sheehan (2007), I assume that cross-linguistic variation regarding null subjects (and, consequently, "free" inversion) cannot be derived from a macro-parameter with two open values and that it is best captured by a cluster of micro-parameters. In an attempt to capture the variation that exists within the small group of languages which are directly relevant to the present study, i.e., Romance and English, I formulated the working model of the NSP presented in fig 2.1. This model follows the yes/no-question format for parameters adopted by Roberts and Holmberg (2010) and combines Sheehan's (2007) micro-parameters (14) and (15) with the correlations between null subjects and "free" inversion postulated in (24).[34] From the model in fig 2.1, it follows that the key factor underlying the difference between EP, on the one hand, and English and French, on the other, regarding "free" inversion is that the latter languages, but not the former, require Spec, IP to be filled by phonetically realised elements.

[34] Note that the purpose of this model is to capture the variation that exists within the small group of languages which are directly relevant to the present study: Romance and English. Hence, it is not meant to be a fine-grained universal model of the variation within NSLs and between NSLs and NNSLs. For a more fine-grained model, see Roberts & Holmberg, 2010.

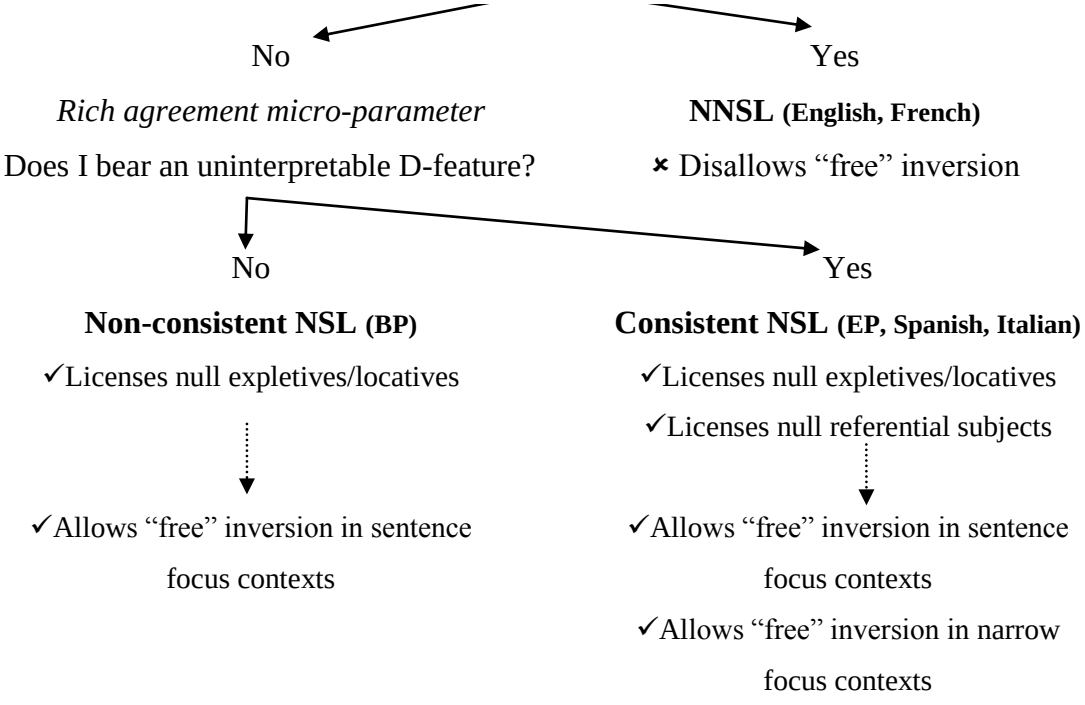


Fig. 2.1. *A working model of the NSP*

Chapter 4

Subject-verb inversion in English

4.1. Introduction

Even though SVI appears to strongly correlate with the licensing of null subjects, its availability is not restricted to NSLs. There are NNSLs which allow this non-canonical word order under certain circumstances. This is the case of English. In this language, SVI is mainly found in four contexts: locative inversion (1), *there*-constructions (2), *thus*-inversion (3) and quotative inversion (4).[35]

(1) On the table was a crystal vase.

(2) There appeared a shadowy figure in the doorway.

(3) Thus occurred the genesis of the Journal of Technology Education.

(4) "What is required of us now is a new era of responsibility", said Obama.

While quotative VS structures occur in free variation with their non-inverted counterparts (5), the other VS structures do not. As shown in (6) and (7), locative inversion and *there*-constructions can only occur in contexts where the subject is part of the information focus. *Thus*-inversion, on the other hand, is only admitted when the conjunction *thus* is exhaustively interpreted as meaning "this way rather than any other way", acting as an identificational focus operator (8). These three types of SVI are thus situated at the interface between syntax and discourse.[36]

[35] As argued by Culicover and Winkler (2008), comparative inversion (ia) and its variants, *so*-inversion (ib) and *as*-inversion (ic), can also be analysed as instances of SVI (in their terms, "stylistic inversion"). However, they are a special case of SVI in that they involve ellipsis and contrastive focus. For this reason, we do not consider these cases in the present study.

(i) a. Mary ran much faster than could have John.
b. Mary had been there, and so had been John.
c. Mary has been very angry, as has been John.

[36] Note that, as proposed by Matos (2013), the subject of the parenthetical clause always receives narrow information focus. Consequently, discourse factors are also relevant in the case of quotative inversion. However, they do not influence the distribution of SV and VS orders. In both word orders, the subject is interpreted as information focus. According to Matos, this is because English allows focus to be marked in two positions: the pre- and the post-verbal positions. In languages like EP, in which the subject only receives narrow information focus in the rightmost position, VS order is mandatory in parenthetical clauses. For more details, cf. Matos (2013) and references therein.

(5) "What is required of us now is a new era of responsibility", Obama said / said Obama.

(6) a. Vicky owns a mahogany table. On the table is a crystal vase. / ?A crystal vase is on the table.
b. Vicky owns a crystal vase. #On the table is the vase. / The vase is on the table.

(7) a. A: What happened afterwards? B: There appeared a shadowy figure in the doorway. / A shadowy figure appeared in the doorway.
b. A: What did a shadowy figure do? B: #There appeared a shadowy figure in the doorway. / A shadowy figure appeared in the doorway.

(8) Just about nine years ago, a meeting occurred at James Madison University, attended by William E. Dugger, Kendall Starkweather, Mark Sanders, and yours truly. The purpose of the meeting was to pursue an idea that Mark had of publishing a scholarly journal for technology education. Thus occurred the genesis of the Journal of Technology Education / #Thus the genesis of the Journal of Technology Education occurred.

Though possible, SVI is a relatively rare phenomenon in English. Biber, Johansson, Leech, Conrad, and Finegan (1999: 926), for example, found the following number of occurrences of SVI structures in the British National Corpus: (i) around 300-400 occurrences per million words in conversation; (ii) around 500-600 occurrences per million words in academic prose; and (iii) over 1000 occurrences per million words in fiction and news. SVI is thus a word order that is mainly used in fiction and news.

As the focus of the present thesis is on locative inversion and *there*-constructions, these are the only types of SVI constructions that will be analysed in detail in the present chapter. The structure of the chapter is the following: in section 4.2, I present the syntactic and discourse properties of the pre-verbal XPs, subjects and verbs which admit locative inversion. Section 4.3 examines the syntax and information structure of *there*-constructions. Finally, the main conclusions of the chapter are presented in section 4.4.

4.2. Locative inversion

Locative inversion is a type of SVI in which the subject occurs in post-verbal position, while a spatio-temporal XP is preposed, as in (1). This construction is rare in English and occurs mostly in fiction (Biber et al, 1999). Despite its infrequency, locative inversion has been widely investigated from different theoretical perspectives over the last decades (e.g., Birner, 1996; Bresnan, 1994; Chen, 2003; Coopmans, 1989; Copy & Gournay, 2009; Culicover & Levine, 2001; Dorgeloh, 1997; Drubig, 1988; Hoekstra & Mulder, 1990; Kreyer, 2006; Levin & Rappaport Hovav, 1995; Prado-Alonso, 2011; Rizzi & Shlonsky, 2006, among others). None of the analyses proposed in the literature has, however, gained general acceptance among linguists. To the present day, various important questions remain under debate, notably: (i) What are the properties shared by the pre-verbal XPs allowed in locative inversion? (ii) Which classes of verbs (dis)allow it? (iii) What is the underlying syntactic structure of this type of SVI?

One of the few characteristics attributed to locative inversion that is consensually accepted in the literature is its information-packaging function. However, this function is formalised in slightly different terms by different authors. For example, Chen (2003) proposes that locative inversion is a ground-before-figure structure. Birner (1994, 1996), who adopts Prince's (1981, 1992) scale of assumed familiarity as the basis of her work, claims that this construction presents "relatively familiar information before a comparatively unfamiliar logical subject" (Birner, 1994: 234). Bresnan (1994), on the other hand, proposes that "locative inversion has a special discourse function of presentational focus […], in which the referent of the inverted subject is introduced or reintroduced on the (part of the) scene referred to by the preposed locative" (p.85). Common to most (if not all) proposals is the idea that the post-verbal subject is more informative than the pre-verbal constituent. For reasons that will become clear in the present section, I adopt the view that the discourse function of locative inversion is to present a non-presupposed referent in a presupposed spatio-temporal scene.

Assuming that this information-packaging function is the key to solve the locative inversion puzzle, some researchers have attempted to explain the properties of this construction exclusively on the basis of discourse factors (e.g., Birner, 1996; Birner & Ward, 1998; Ward, Birner & Huddleston, 2002). Contrary to those who adopt a discourse-only account of locative inversion, in the present thesis, I assume with

Landau (2010) and Rizzi and Shlonsky (2007), among others, that this construction is not reducible to the general information-packaging function described above and that syntactic aspects have to be taken into account. In what follows, the syntax and information structure of the pre-verbal XPs, verbs and post-verbal subjects which allow locative inversion will be examined in detail.

4.2.1. *Pre- and post-verbal constituents*

Over the last decades, research into English locative inversion has given considerable attention to the properties of the post-verbal subjects compatible with this construction. A large body of work has consistently shown that these constituents are subject to only one constraint: they must be (part of) the information focus of the sentence (9) (cf. Bresnan, 1994; Cornish, 2001, 2005; Levin & Rappaport Hovav, 1995; among others). They can receive either narrow focus, as in (10a), or wide focus, as in (10b). Note, however, that locative inversion typically gets a wide-focus, thetic reading, where the verb and the subject are interpreted as a single informational unit, as in (10b) (for details on theticity, see chapter 2, section 2.4).

(9) a. They have a great big tank in the kitchen, and <u>in the tank are sitting a whole bunch of pots</u>.
b. They have a whole bunch of pots in the kitchen, and #<u>in a great big tank are sitting all of the pots</u>. (Ward et al., 2002: 1386)

(10) a. A: Who lived in this house? B: In this house lived [$_{FOC}$ two old ladies].
b. A: Tell me what you know about this house. B: In this house [$_{FOC}$ lived two old ladies].

As long as the post-verbal position receives focus, it can be occupied by almost all types of subjects, including indefinite (9a) and definite (11a) ones. Pronominal subjects are the only type of subjects that tends to be rejected in locative inversion (11b). As Bresnan (1994) points out, the unacceptability of a pronominal subject in sentences like (11b) and (12a) cannot be attributed to a syntactic restriction against inverted pronouns, since the deictic use of the pronoun is admitted in locative inversion, as shown in (12b). Rather, its ill-formedness is related to the fact that anaphoric pronominal subjects are presupposed and, thus, incompatible with the discourse function of this type of SVI.

(11) a. They have a great big tank in the kitchen, and in the tank are sitting the pots your mother gave them last year.

b. They have a great big tank in the kitchen, and *in the tank is sitting it.

(12) a. *Rose$_i$? Among the guests of honor was sitting she$_i$/her$_i$.

b. Among the guests of honor was sitting HER [pointing].

(Bresnan, 1994: 86)

As the XPs which occupy the pre-verbal position of locative inversion structures have generally received less attention in the literature than post-verbal subjects, the following question is still far from settled: what precise properties must a clause-initial XP have to license locative inversion in English? In the literature, there are two competing perspectives on this issue. According to a purely syntactic perspective, followed by Bresnan (1994) and Coopmans (1989), among many others, the pre-verbal XPs that license locative inversion are locative arguments of the verb. This account is, however, disconfirmed by sentences like (13), where the pre-verbal constituent is an adjunct of the verb and yet allows locative inversion. According to an alternative perspective, the key to understanding the properties of these XPs lies in the discourse domain, rather than in narrow syntax. Some authors, most notably Birner and colleagues (e.g., Birner, 1994, 1996; Birner & Ward, 1998; Ward et al., 2002), have advocated that the pre-verbal XPs which are found in English locative inversion correspond to information that is, at least, as familiar in discourse as that conveyed by the post-verbal subject. Other authors have suggested that these XPs are topics (e.g., Rizzi & Shlonsky, 2006; Stowell, 1981).

(13) Precisely at nine o'clock came the Princess in the carriage with four horses. (Lang, A. (2014). *The Blue Mountains.* London: Sovereign Classic, p. 11)

Building on recent work by Lahousse (2003, 2007, 2011), which shows that the pre-verbal XPs of French locative inversion are stage topics, in this thesis, I argue that the XPs which occupy the pre-verbal position of locative inversion constructions are stage topics[37] not only in French, but also in English. This claim makes two testable predictions. On the one hand, it predicts that the XPs in pre-verbal position must be presupposed, but not necessarily discourse-old, for locative inversion to be felicitous in

[37] Recall that, as explained in chapter 2, stage topics are presupposed (i.e., they convey information that the addressee either knows, by virtue of its discourse-old status, or is ready to take for granted) and define a spatio-temporal location.

English. On the other hand, it predicts that not all the presupposed topic XPs allow locative inversion; only topics which define a spatio-temporal location do.

Let us examine the first prediction. As illustrated by the examples in (14), in English, locative inversion is possible with both discourse-old and discourse-new pre-verbal XPs. While the former can co-occur with discourse-new and old post-verbal subjects, the latter are only compatible with subjects which introduce new information in discourse. Crucially, as will be shown in this section, the (un)acceptability of each of these combinations of constituents can be successfully explained by our proposal that a pre-verbal XP must be presupposed to license locative inversion in English.

(14) a. ***Discourse-old pre-verbal constituent + discourse-new post-verbal constituent*:** They have a great big tank in the kitchen, and <u>in the tank are sitting a whole bunch of pots</u>. (Ward *et al*., 2002: 1386)

b. ***Discourse-old pre-verbal constituent + discourse-old post-verbal constituent***[38]: Tich made tea in a blackened billy and McPherson filled a telescopic cup he took from a pocket. Seated on a form, he helped himself to sugar and then proceeded to cut chips from a tobacco plug, the cold and empty pipe dangling from his lips against the full grey moustache. <u>Seated opposite him was Tich, waiting for gossip, wandering, hoping.</u> (Birner & Ward, 1998: 169)

c. ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent :*** I had lunch at Marshall Field's yesterday, and you wouldn't believe who was there. <u>Behind a cluster of microphones was Hillary Clinton (holding yet another press conference).</u> (Ward *et al*., 2002: 1387)

d. ***Discourse-new pre-verbal constituent + discourse-old post-verbal constituent***: They have a whole bunch of pots in the kitchen, and #<u>in a great big tank are sitting all of the pots</u>. (Ward *et al.,* 2002: 1386)

Consider the locative inversion structures in (14a) and (14b). In these examples, the pre-verbal XPs convey information that is more familiar than that of the post-verbal subjects. In the case of (14a), the pre-verbal PP is the most familiar constituent, since it has a discourse-old status but the subject does not. In the case of (14b), the constituent

[38] Note that, in English, when the information presented by the pre- and post-verbal constituents has been previously mentioned in the discourse, it is the constituent that has been evoked most recently (i.e., closer to the locative inversion) that typically appears in pre-verbal position.

that appears pre-verbally is also the most familiar, because the information it conveys has been more recently mentioned in discourse than the information presented post-verbally.[39] Given the facts just described, it can be concluded that, in the locative inversions (14a) and (14b), the information in post-verbal position cannot be readily taken for granted, whereas the information conveyed by the pre-verbal constituents can. Hence, these constituents have a presupposed status. This is why they can license locative inversion. Significantly, this claim is supported by the following question-answer tests, which prove that the acceptability of locative inversions like (14a) and (14b) is greatly reduced when they are embedded in discourse contexts where the preposed XPs are not part of the presupposition associated with the sentence.

(15) a. A: What is sitting in the tank? B: In the tank are sitting [$_{FOC}$ a whole bunch of pots].

b. A: Where is a whole bunch of pots? B: #[$_{FOC}$ In the tank] are sitting a whole bunch of pots.

c. A: Why are you upset? B: (because) #[$_{FOC}$ in the tank are sitting a whole bunch of pots].

(16) a. A: Who was seated opposite him? B: Seated opposite him was [$_{FOC}$ Tich].

b. A: Where was Tich? B: #[$_{FOC}$ Seated opposite him] was Tich.

c. A: Why was he upset? B: (because) #[$_{FOC}$ Seated opposite him was Tich].

Contrary to what we observe in (14a) and (14b), in the locative inversion structure (14c), there is no difference between the pre- and post-verbal constituents in terms of discourse familiarity: they both convey discourse-new information. However, the preceding context, namely the sequence "you won't believe who was there", makes it clear that what is being asserted is the presence of Hillary Clinton, and not where she was. Therefore, in this context, the information presented by the preposed constituent is not under assertion. On the contrary, it appears to be taken for granted. Put differently, it seems to be presupposed.

Two pieces of evidence lend support to this claim. First, the locative inversion in (14c) can be replaced by (17) without losing its core meaning. Second, and more

[39] Discourse-oldness is a gradient notion. As noted by Birner (1998: 309), "more recently evoked information is treated as more familiar in the discourse than less recently evoked information".

importantly, this structure is infelicitous in reply to an out-of-the-blue question, which forces the entire sentence to be interpreted as focus, i.e., as non-presupposed (18). Importantly, the felicity contrast between (14c), where the pre-verbal PP is simultaneously [+ presupposed] and [+ discourse-new] (cf. supra), and (18a), where the PP is [- presupposed] and [+ discourse-new], indicates that, as predicted, the factor which determines whether a clause-initial XP can license locative inversion is its [± presupposed] status, rather than its [± discourse-new] status.

(17) ...you wouldn't believe who was there: Hillary Clinton.

(18) a. A: Why did everybody look so surprised? B: #(Because) [$_{FOC}$ behind a cluster of microphones was Hillary Clinton].
b. A: Why did everybody look so surprised? B: (Because) [$_{FOC}$ Hillary Clinton was behind a cluster of microphones].

The proposal that a fronted constituent must be presupposed to allow locative inversion accounts not only for the felicity of the structures in (14a-c), but also for the infelicity of sequences like (14d), where a discourse-new pre-verbal constituent is followed by a discourse-old post-verbal constituent. In this case, locative inversion is infelicitous because the pre-verbal PP is not presupposed while the post-verbal subject is.

Even though the evidence presented so far strongly suggests that only pre-verbal XPs with a presupposed status can license locative inversion in English, there are (apparent) exceptions to this rule in literary texts. As the following example taken from *Ali Baba and the forty thieves* illustrates, literary texts often begin with a locative inversion structure. In this context, none of the sentence constituents seems to be presupposed.

(19) Once upon a time . . . in a distant Persian city lived two brothers called Ali Baba and Kasim. (http://home.in.tum.de/~kirsch/maerchen/englisch/alibaba)

Interestingly, this type of (apparently) non-presupposed locative inversion has a strong literary flavour. As shown in (20), outside of a literary context it is much less acceptable to use an inversion structure whose pre- and post-verbal constituents have a non-presupposed status.

(20) A: John, did you hear the weird report on the evening news? B: #In a slum lives a former Brazilian president. / A former Brazilian president lives in a slum.

These facts raise the following question: why are non-presupposed fronted XPs accepted in locative inversion structures (almost) exclusively in literary texts? Following Birner and Ward (1998), I argue that this occurs because the hearer/reader expects stories to have spatio-temporal settings. As proposed by Birner and Ward (1998: 176), "in the context of the beginning of a story, the notion of a setting may be assumed to be situationally evoked (Prince 1981)", i.e., salient in the situational context of the discourse. Significantly, in non-literary contexts, the preposed constituents which convey situationally evoked information also admit locative inversion. For example, one can point to a table in a room and utter a sentence like (21) out of the blue.

(21) John, on that table is a blue pen; could you bring it to me, please?

In line with Prince (1981), I assume that situationally evoked information constitutes given, rather than new information. I further assume that situationally evoked XPs, such as those in (19) and (21), have a presupposed status, corresponding to propositions which "the speaker assumes the hearer already knows or is ready to take for granted at the time the sentence is uttered" (Lambrecht, 1994: 52). Based on these assumptions, I propose that, contrary to what might appear at first sight, the structures in (19) and (21) conform to the generalisation that pre-verbal XPs must have a presupposed status to be accepted in locative inversion.

Taken together, the empirical data examined so far provide robust evidence that a clause-initial XP must be presupposed to license locative inversion. Simultaneously, these data bring into question the hypotheses that appeal to the notion of discourse familiarity to account for the properties of preposed XPs in locative inversion. In particular, the felicity contrast between (14c) and (18a), repeated under (22) for ease of exposition, demonstrates that, contrary to what Birner and colleagues (e.g., Birner, 1994, 1996; Birner & Ward, 1998; Ward et al., 2002) propose, conveying information that is at least as familiar within the discourse as that conveyed by the post-verbal constituent is not a sufficient condition for a pre-verbal XP to be compatible with locative inversion. Given that, in both (22a) and (22b), pre- and post-verbal constituents are discourse-new, the felicity contrast between them cannot be attributed to factors associated with discourse familiarity. This contrast is only explainable if one assumes –

as I do – that the (in)felicity of a pre-verbal XP in locative inversion is determined by its [± presupposed] status, rather than by its discourse familiarity.

(22) a. ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent:*** I had lunch at Marshall Field's yesterday, and you wouldn't believe who was there. Behind a cluster of microphones was Hillary Clinton, (holding yet another press conference). [=(14c)]

b. ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent:*** A: Why did everybody look so surprised? B: # (Because) behind a cluster of microphones was Hillary Clinton (holding yet another press conference). [=(18a)]

The claim that the XPs in the pre-verbal position of locative inversion structures are required to be stage topics predicts that having a presupposed, topic status is a necessary, but insufficient condition for a pre-verbal XP to license inversion. An additional condition must be satisfied: the XP must define a location. This prediction is confirmed by various pieces of empirical evidence, which will be presented and discussed in the remainder of this section.

One of those pieces of evidence comes from the well-attested fact that, in English, locative inversion typically occurs with pre-verbal XPs which define a spatio-temporal location. These include locative PPs and AdvPs (23a-b), temporal PPs, AdvPs and DPs (23c-e), and participial phrases with a locative PP[40] (23f) (cf. Birner, 1994, 1996; Birner & Ward, 1998; among others). Significantly, the spatio-temporal XPs which do not specify a location are unable to trigger inversion in English. This is the case of the non-specific indefinite adverb "somewhere" (24) and of adverbs of duration and frequency (25).

(23) a. In front of them were over a hundred journalists from the four corners of the world.

b. Here lived Ghandi.

[40] Note that, in participial phrases with a locative PP, omitting the PP reduces the acceptability of inversion, while omitting the participle preserves it. This fact indicates that what licenses inversion in these cases is not the participial phrase itself, but rather the embedded locative. Compare the example in (23f) with the following:

(i) a. ⁇ Coiled lay a one-hundred-and-fifty -foot length of braided nylon climbing rope […].

b. On the floor lay a one-hundred-and-fifty-foot length of braided nylon climbing rope […].

c. Precisely at nine o'clock came the Princess in the carriage with four horses. (Lang, Andrew (ed.) (2013). The blue mountains. London: Sovereign Classic, p. 11)

d. Afterwards arrived the mother of all meals: the roast. (http://www.theresident.co.uk/food-drink-london/restaurant-reviews-london/food-review-red-lemon/)

e. Four years later occurred another attempted invasion that, like its predecessors, was a fiasco. (Armstrong, W. (1978). *E.L. Godkin: A biography*. New York: SUNY Press, p. 109)

f. Coiled on the floor lay a one-hundred-and-fifty-foot length of braided nylon climbing rope three-eighths of an inch thick. (Birner & Ward, 1992: 7)

(24) ??Somewhere appeared John.

(25) a. *Temporarily occurred hallucinations.

b. *Often occurred street fights.

Another piece of evidence which supports the view that a topic pre-verbal XP must define a location to license locative inversion comes from the behaviour of English with non spatio-temporal XPs. In this language, the XPs which do not denote a spatio-temporal location are generally incompatible with inversion, even when their content is presupposed.[41] This is exemplified in (26), with an instrumental PP, and in (27), with a manner AdvP.

[41] There are, nevertheless, some exceptions to this rule. In fact, corpus-based studies (e.g., Birner, 1994, 1996; Birner & Ward, 1998) have shown that English permits VS orders with pre-verbal XPs which are not semantically spatio-temporal, namely AdjPs (ia), DPs with a predicative function (ib) and participial phrases without a locative XP (ic).

(i) a. Republican senators on the conference committee expressed outrage when these gimmicks were proposed. Angriest of all was Judd Gregg. (Kaiser, R. (2013). *Act of Congress*. New York: Alfred A. Knopf, p. 361)

b. She is a nice woman, isn't she? Also a nice woman is our next guest... (Ward et al., 2002: 1385)

c. Twiggs County Sheriff Darren Mitchum said they have recovered the stolen merchandise and made arrests. "Four people arrested and we've recovered approximately about $20,000 worth of merchandise," said Mitchum. Arrested were Condy Warren Ashe Jr., 53, Cory D. Brown, 24, Jeffery Blake Hasty, 30, and Joshua David Mixter, 33. (http://www.13wmaz.com/story/news/local/twiggs/2015/01/07/theft-ring-twiggs-county-four-arrested/ 21386795/)

The types of inversion structures presented above have one characteristic in common: their sentence-initial XPs generally repeat an adjective (e.g., "angry"), noun (e.g., "woman") or participle (e.g., "arrested") mentioned in or inferable from the preceding linguistic context, thus situating the post-verbal subject in relation to or within a group of entities in the prior discourse. For example, in (ia), the AdjP "angriest of all" situates "Judd Gregg" in the group of Republican senators who were outraged. Similarly, in (ib), the DP "also a nice woman" locates the post-verbal subject "our next guest" in the class to which the woman mentioned in the prior sentence belongs − the class of "nice women". Finally, in (ic), the pre-verbal VP "arrested" situates "Condy Warren Ashe Jr., Cory D. Brown, Jeffery Blake Hasty and Joshua

(26) A: Who arrived by train? B: *By train arrived John.

(27) A: Who came voluntarily? B: *Voluntarily came John.

From the empirical evidence presented throughout this section, two conclusions can be drawn with respect to the properties of pre-verbal XPs in locative inversion. First, they must be presupposed to license this type of inversion. Second, it is not the case that all pre-verbal XPs with a presupposed, topic status allow this inversion – only the ones that define a location, i.e., stage topics, do. It appears that being a stage topic is not only necessary, but also a sufficient condition for a pre-verbal XP to license locative inversion. In English, any stage topic can trigger this type of SVI, regardless of two factors typically deemed decisive in the literature: (i) the adjunct or argument status of the preposed constituent, and (ii) the discourse-oldness or newness of the information it conveys. It should, however, be noted that stage topics need to satisfy one condition to be admitted in English locative inversion: they must be overt. As shown in (28), covert stage topics are incompatible with this inversion.[42]

(28) The door of the library slowly opens and *appears a man in his sixties. (covert sTOP=in the library)

In sum, the evidence examined in this section shows that English locative inversion serves the function of presenting a non-presupposed subject on a scene set by an overt stage topic, and further, that its pre- and post-verbal constituents are only subject to the following restrictions:

(29) ***Conditions on the pre- and post-verbal constituents of English locative inversion***

a. The post-verbal subject must be (part of) the focus of the sentence.

b. The pre-verbal constituent must be an overt stage topic.

David Mixter" in the group of four people arrested in Twiggs County. These examples, therefore, suggest that the non spatio-temporal XPs compatible with inversion are presupposed and define a notional, abstract location in context. As a result, they function as stage topics. The difference between them and the typical stage topics lies in the fact that they provide a notional, rather than a spatio-temporal, location.

[42] English admits SVI structures like (i) in the context of stage directions. Even though it could be hypothesized that this VS order is licensed by a covert stage topic interpreted as "on the stage", I do not consider this structure an instance of covert locative inversion for two main reasons. First, there is no agreement between the subject and the verb in this inversion structure, which indicates that it is derived in a substantially different way from locative inversion. Second, this type of inversion tends to occur mainly with the unaccusative verb *enter* in the present simple, and thus appears to function more as a ready-made formula for introducing characters on the scene than as a true inversion structure with finite rules that speakers can creatively apply to generate an infinite range of sentences.

(i) Enter Helena. (J. Osborne, *Look Back in Anger* , London, Faber and Faber, 1960, p. 71)

4.2.2. *The verb*

The verb most frequently found in locative inversion is "be" (30a).[43] In addition to this verb, there is a limited set of other verbs which can undergo this type of SVI. These include passivised transitive verbs without the *by*-phrase (30b-c) and some intransitive verbs, which, in most cases, belong to the unaccusative verb class (30d-e). Unergative verbs are not generally admitted in this type of inversion (30f-g). These facts have led various authors to propose that locative inversion is an unaccusativity diagnostic, i.e., a construction which only admits unaccusative verbs (e.g., Bresnan, 1994; Coopmans 1989).[44]

(30) a. On the table is a pen.

b. *On the table has placed (an apple pie) Mary (an apple pie).

c. On the table has been placed an apple pie (* by Mary).

d. Out of the house came an old lady.

e. In the distance appeared the towers of the old cathedral.

f. *In the cafés of Paris talk many artists. (Levin & Rappaport Hovav, 1995: 222)

g. *In government offices complained many disgruntled people. (adapted from Levin & Rappaport Hovav, 1995: 222)

As noted in chapter 2, unaccusative verbs are a subclass of intransitive verbs which differs from the other intransitives, labelled "unergatives", in two main respects: (i) the syntactic position where its sole argument is base-generated, and (ii) the theta-role it is assigned. While the argument of unaccusative verbs is generated in the object position (31) and assigned a theme or patient role, the argument of unergative verbs is generated in the subject position, i.e., Spec, VP (32), and assigned an agent role (Burzio, 1986; Perlmutter, 1978).[45] In this thesis, I assume with Sorace (2006: 111) that "there

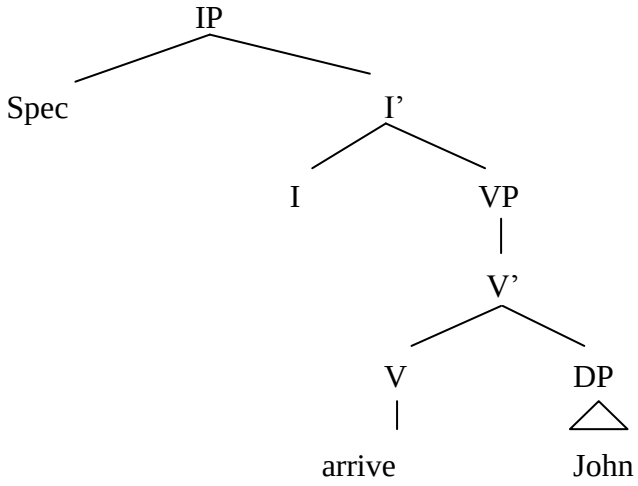
[43] In a survey of the British National Corpus by Biber et al (1999), locative inversion occurred about half the time with the verb *be*.

[44] Given that the argument structure of unaccusative verbs is similar to that of passive transitive verbs like (30c), which only have a theme argument (as a result of the suppression of the agent argument via passivization), the grammaticality of locative inversion with passive transitive verbs is consistent with the hypothesis that this construction is an unaccusativity diagnostic.

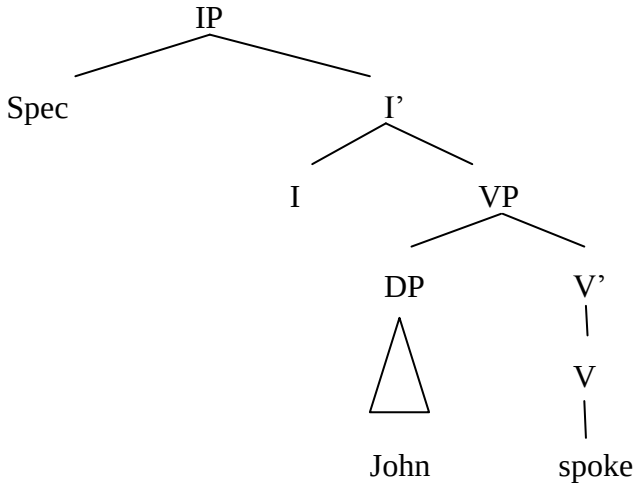
[45] It has proved difficult to fit some intransitive verbs unambiguously into one class or the other. On the one hand, there are verbs that do not satisfy unaccusativity diagnostics in consistent ways across languages. On the other hand, within languages, there are verbs that can display either unaccusative or unergative syntax depending on the context. These facts have led Sorace (2000, 2004, 2011b) to propose that there is gradience in split intransitivity and that intransitive verbs are organised in a Split Intransitivity Hierarchy (Sorace, 2011), which is defined primarily by telicity and secondarily by the degree of agentivity of the verb (Fig.1). She predicts that the closer to the core a verb is, the more

are two sides to the split intransitivity question: a syntactic side (the structural configuration that determines unaccusativity or unergativity) and a lexicon-syntax interface side (the mapping system that decides the syntactic behaviour of any given verb)".

(31) ***D-Structure of unaccusative verbs:*** "John arrived"



(32) ***D-Structure of unergative verbs*:** "John spoke"



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determinate its syntactic status as either unaccusative or unergative will be (both across and within languages).

CHANGE OF LOCATION (e.g., "arrive") >	categorically unaccusative
CHANGE OF STATE (e.g, "break")>	
CONTINUATION OF STATE (e.g., "remain")>	
EXISTENCE OF STATE (e.g, "exist">	
UNCONTROLLED PROCESS (e.g., "shine")>	
CONTROLLED MOTIONAL PROCESS (e.g., "swim")>	
CONTROLLED NON-MOTIONAL PROCESS (e.g., "speak")	categorically unergative

Fig. 1. *The Split Intransitivity Hierarchy* (adapted from Sorace, 2011: 69)

Contrary to what is predicted by those who consider locative inversion an unaccusativity diagnostic, unaccusatives are not the only class of verbs which can undergo this type of SVI. Unergative verbs are also admitted by locative inversion in the following situations: (i) when the unergative is a verb of manner of motion and co-occurs with a directional PP (cf. Levin, 1993; Levin & Rappaport Hovav, 1995; Salzmann, 2013), as in (33a); (ii) when the unergative is combined with a subject whose referent prototypically executes the action expressed by the verb (cf. Levin, 1993; Levin & Rappaport-Hovav, 1995), as in the sentence (34a) where the verb "wave" co-occurs with a subject that characteristically waves, "the banner"; and (iii) when the unergative verb is followed by a structurally heavy subject, as in (35a) (cf. Culicover & Levine, 2001; Rizzi & Shlonsky, 2007). It should be noted that the grammaticality of locative inversion with unergative verbs of manner of motion plus directional PPs does not present a challenge to the hypothesis that this construction is an unaccusativity diagnostic, since these verbs are generally assumed to behave like unaccusatives in the presence of directional PPs (cf. Levin & Rappaport Hovav, 1995). However, the grammaticality of sentences like (34a) and (35a) cannot be explained in a similar way. For this reason, these examples are problematic for the traditional view that locative inversion is an unaccusativity diagnostic.

(33) a. Into this scene walked John's sister.
b. *In the room walked John's sister.

(34) a. From the flagpole waved a tattered banner.
b. *From the roof waved a bearded student.

(Levin & Rappaport Hovav, 1995: 259)

(35) a. In the room slept fitfully the students in the class who had heard about the social psych experiment that we were about to perpetrate.
b. *In the room slept Robin.

(Culicover & Levine, 2001: 293)

Also problematic for this view is the fact that not all unaccusative verbs appear to be allowed in locative inversion. These verbs are typically divided into two major classes: (i) the class of verbs of change of state, which includes such verbs as "melt", "break" and "grow"; and (ii) the class of verbs of existence and appearance, which includes verbs of existence, like "exist" and "live", verbs of spatial configuration, like "stand" and "sit", verbs of appearance, like "appear" and "emerge", and verbs of

inherently directed motion, like "arrive" and "enter" (for complete lists, cf. Levin, 1993; Levin & Rappaport Hovav, 1995). As the examples in (36) illustrate, only unaccusative verbs of existence and appearance tend to be accepted in locative inversion. The unaccusatives which express a change of state, as well as those which denote disappearance (e.g., "vanish" and "disappear") are generally excluded from this construction.

(36) a. On the stage appeared a clown.
b. In the forest lives a family of bears.
c. ??On the streets of Chicago melted a lot of snow.[46]
d. ??On the top floor of the skyscrapers broke many windows.
e. ??In Massachussets grows corn very slowly.
f. ??In the streets of Chicago vanished / disappeared a man.

(from Levin & Rappaport Hovav, 1995: 224; 236, except for 36a-b and 36f)

In order to account for the peculiar distributional properties of verbs in locative inversion, linguists have developed different proposals. These can be divided into two broad categories which I label "discourse accounts" and "(lexical-)syntactic accounts", according to whether they resort to discourse or (lexical-)syntactic factors to explain the distribution of verbs in locative inversion.

Discourse accounts reject the idea that locative inversion is an unaccusativity diagnostic and contend that the key to an understanding of the restrictions to which verbs are subject is to be found in the discourse domain. The discourse accounts which have gained more popularity in the literature are the ones by Birner (1994, 1996; Birner & Ward, 1998) and Levin and Rappaport Hovav (1995). These authors argue that locative inversion is only compatible with informationally light verbs, i.e., verbs that add little or no information beyond the existence or appearance of the subject referent, because only verbs with such characteristics can accommodate the discourse function of this construction: to (re)introduce a referent on a scene to become the new focus of attention. According to this account, the well-attested preference of locative inversion for unaccusative verbs of existence and appearance results from the fact that these verbs

[46] I will show below that sentences like (36c) are unacceptable in English due to a discourse factor: the verb is not compatible with the presentational function of locative inversion. Although the factor underlying the unacceptability of (36c) is of a discourse nature, I mark it with '??' instead of '#', because this sentence would not be acceptable in any discourse context. As will be shown below, only by making changes to the sentence itself can we make it acceptable. For a matter of coherence, '??' are used in all the cases that are similar to this one.

do not have a lexicalized manner component, and add no or little information to that conveyed by the pre-verbal XP, which, by setting a spatio-temporal scene, suggests that something will exist/appear on that scene. The rejection of unaccusative verbs which denote a change of state, on the other hand, is claimed to be a consequence of the fact that these verbs introduce unpredictable information which goes beyond the mere assertion of the existence/appearance of an entity. Similarly, the virtual absence of transitive verbs from locative inversion is argued to be related to the fact that, in a sentence with a transitive verb, the verb and the object typically contribute additional information beyond the fact that an entity exists. Finally, according to the informational lightness account, the grammaticality of unergative verbs in contexts like (34) is explained by the fact that, when a verb expresses an action which is prototypical of the subject referent, its semantic content becomes redundant, enabling it to merely assert the existence/appearance of the referent in question. In other words, these verbs are allowed in locative inversion because they are informationally light in the context in which they are embedded.

The key problem of the informational-lightness account just presented is that it fails to predict and explain the grammaticality contrasts in (35), repeated under (37) for ease of exposition:

(37) a. *In the room slept Robin.

b. In the room slept fitfully the students in the class who had heard about the social psych experiment that we were about to perpetrate.

(Culicover & Levine, 2001: 293)

In fact, while the ungrammaticality of a sentence like (37a), which includes an unergative verb that does not refer to an activity characteristic of the subject referent, is predicted by this hypothesis, the grammaticality of (37b) is not. As is the case with (37a), here the verb "sleep" does not denote a prototypical activity of the subject referent. Therefore, there are no grounds to claim that, in this case, but not in the former, the verb is informationally light. Consequently, the grammaticality of (37b) remains unexplained under this account. By showing that locative inversion is not completely reducible to its discourse function, examples like (37b) bring into question the accuracy of Birner's (1994, 1996) and Levin and Rappaport Hovav's (1995) account.

Unlike the discourse accounts just presented, (lexical-)syntactic accounts claim that locative inversion is an unaccusativity diagnostic. They explain the grammaticality of unergative verbs either by postulating that the unergative verbs which occur in locative inversion have two related meanings, one compatible with an unaccusative analysis and the other with an unergative analysis, and "become" verbs of existence and appearance in these constructions (Broekhuis, 2005; Hoekstra & Mulder, 1990; Mendikoetxea, 2006a, 2006b) or by proposing that the phenomenon described as locative inversion is a conflation of two different constructions, light inversion, i.e., SVI with a phonologically and structurally simple post-verbal subject, and heavy inversion, i.e., SVI with a heavy post-verbal subject (cf. Culicover & Levine, 2001; Rizzi & Shlonsky, 2007). According to the latter view, light inversion is only admitted with unaccusative verbs and involves no movement of the subject, which is base-generated post-verbally in the complement position of the VP. Heavy inversion, in contrast, allows unergatives, unaccusatives and some transitives (for details, see below) and involves movement of the subject DP, which goes from its base VP-internal position to Spec, IP, and then to a position adjoined to IP, via heavy-DP shift. In other words, from this perspective, light locative inversion (and not heavy inversion) is the true unaccusativity diagnostic.

Importantly, the division of locative inversion into light and heavy inversion can explain the grammaticality contrasts in (37), which, as previously mentioned, remain unexplained by those who defend that the verbs in this construction must be informationally light, as well as by those who assume that unergatives become unaccusatives in the context of locative inversion. As Culicover and Levine (2001) point out, in (37b), SVI is allowed with the unergative "sleep", because of the heaviness of the subject (in terms of length, complexity and stress). In (37a), this unergative verb blocks SVI, since the subject, which is generated in Spec, VP, is phonologically and structurally simple and cannot be right-adjoined to the IP. Although the light-heavy inversion division accounts for facts which the other proposals leave unexplained, it fails to provide an explanation for all the verbs attested in locative inversion. The unexplained fact which poses the greatest challenge to this division as currently formulated is the occurrence of unergatives with structurally light post-verbal subjects in sentences like (34a).

Given that none of the accounts summarised above explains all the data, in this thesis, I formulate an alternative proposal which brings together insights from discourse and (lexical-)syntactic accounts. Following Culicover and Levine (2001) and Rizzi and Shlonsky (2007), I assume that the only way of accounting for the grammaticality contrasts in (37) is to postulate the existence of two subtypes of locative inversion, which I label "light locative inversion" and "heavy locative inversion". I further assume with Culicover and Levine (2001) and Rizzi and Shlonsky (2007) that heavy locative inversion is compatible with unergatives, unaccusatives and some transitives. Nevertheless, contrary to what these authors propose, I claim that light locative inversion is not only possible with unaccusative verbs, but also with some unergatives – those which express a prototypical activity of the subject referent. As shown by the contrast between (34a) and (34b), repeated under (38) for ease of exposition, unergative verbs only seem to be accepted in light locative inversion when they express an activity that is characteristic of the subject referent, i.e., when their content is redundant. As can be seen in (38), an unergative verb like "wave", for example, is allowed with a light subject whose referent characteristically waves such as "a banner", but crucially not with a subject whose referent does not prototypically execute this activity like "a student".

(38) a. From the flagpole waved a tattered banner.
b. *From the roof waved a bearded student.

(Levin & Rappaport Hovav, 1995: 259)

In line with Mendikoetxea (2006a, 2006b), I argue that redundant unergatives are accepted in light locative inversion because the redundancy of their content makes them lose their habitual agentive properties and become associated with an unaccusative-like structure and interpretation, where, as suggested by Mendikoetxea (2006a, 2006b), their [+activity] component is demoted, while the [+state] component is promoted. That these verbs have a low agentive flavour is suggested by the fact that their acceptability is greatly reduced when they co-occur with adverbs expressing volition (e.g., 'deliberately', 'intentionally'), manner adverbs or purpose adverbials, such as 'in order to' clauses, which are classic agentivity tests.

(39) a. In the church sang a choir. (Levin, 1993: 93)
b.??In the church (deliberately/intentionally) sang (deliberately/ intentionally) a choir (deliberately /intentionally).

c.??In the church (well) sang (well) a choir (well).

d.??In the church sang a choir in order to prepare for a Christmas concert.

Further evidence in favour of this proposal is provided by the fact that redundant unergative verbs can be replaced by "be" − a verb which does not assign agent roles to its arguments − without losing their core meaning (40). This fact not only suggests that the argument of redundant unergatives is interpreted as a theme-like argument, but also indicates that these verbs merely assert the existence/appearance of the subject referent, adding little information beyond that.

(40) a. In the church sang a choir. ≈ In the church was a choir.

b. From the flagpole waved a tattered banner. ≈ On the flagpole was a tattered banner.

Taken together, the examples in (39) and (40) provide clear evidence that, when unergative verbs express a prototypical activity of the subject referent, their agentivity is neutralised and they become reduced to a presentational/existential meaning. Thus, it can be concluded that redundant unergatives resemble unaccusative verbs of existence and appearance. In the light of this evidence, I assume with Mendikoetxea (2006a, 2006b) that the unergatives which appear in light locative inversion are not typical unergatives, but rather unergatives which have "become" unaccusative-like and express an atelic existential meaning. I leave the question of how the idea that unergatives "become" unaccusative-like should be technically implemented for future research (for a proposal, see Mendikoetxea, 2006a, 2006b). It is sufficient for our purposes to simply note that the unergatives attested in light locative inversion are not "true" unergative verbs, but rather unaccusative-like verbs.

Note that the idea that some intransitive verbs can display either unaccusative or unergative syntax depending on contextual characteristics is not unheard of. This behaviour has been attested, for example, in Italian auxiliary selection (cf. Sorace, 2000). Certainly, the existence of verbs which fluctuate between unaccusative and unergative behaviour is not unexpected under the hypothesis formulated by Sorace (2000, 2004, 2011b) that split intransitivity is gradient, rather than categorical (see fn 45).

In English, the patterns of nuclear stress assignment in sentence focus contexts, which were described in chapter 2, may be regarded as independent evidence in favour

of the view that unergative verbs fluctuate between unergative and unaccusative behaviour in this language according to pragmatic factors like the degree of predictability and noteworthiness of the subject in relation to the verb. Recall that, as shown by Zubizarreta and Nava (2011), the unergatives that express an action prototypical of the subject referent pattern like unaccusative verbs with respect to stress assignment (41c), while those whose subject is pragmatically unpredictable do not (41d): (The underlined word indicates the position of the nuclear stress.)

(41) a. A: Why are you so happy? B: My friend arrived.

b. A: What happened? B: You won't believe it! The aliens arrived!

c. A: Why is everybody at the aquarium? B: Because a dolphin is swimming.

d. A: Why does everybody look so surprised? B: Because a dolphin was talking. (Zubizarreta & Nava, 2011: 654)

From the proposal that unergative verbs fluctuate between unergative and unaccusative behaviour according to pragmatic factors, it follows that to determine whether an unergative verb is acceptable in a given locative inversion the speaker needs to consider whether that verb has an unaccusative or unergative behaviour in the particular context it occurs, which, in turn, requires the integration of lexical-syntactic information with pragmatic information. In other words, determining whether or not an unergative verb is admissible in locative inversion involves a three-way interface of lexicon, syntax and pragmatics.

Crucially, the idea that redundant unergatives are unaccusative-like, combined with the proposal that locative inversion is subdivided into light and heavy inversion, can successfully account for two facts that are not fully explained by other accounts: (i) the fact that unergatives are only allowed in light locative inversion when their content is redundant in relation to the subject, and (ii) the fact that non-redundant unergatives can only appear in locative inversion when the subject is heavy. From the account proposed in this thesis, it follows that the grammaticality contrast between redundant and non-redundant unergatives in light locative inversion results from the fact that, in this structure, the subject DP remains *in situ* in the object position, which is a position that can only be occupied by the subject of unaccusative-like verbs. The grammaticality of true unergatives in heavy locative inversion, on the other hand, is explained by the fact that heavy subjects can extrapose to the right from the Spec, IP position, thus

deriving a VS order. Importantly, our account rightly predicts that when the unergative is neither redundant nor accompanied by a heavy subject, locative inversion is ungrammatical, as in (38b).

Even though lexical-syntactic factors play an important role in explaining the distribution of verbs in locative inversion, they are unable to account for all the facts that have been reported in this section. The discourse function of locative inversion also restricts the set of verbs which appear in it. This becomes particularly clear when one considers the behaviour of unaccusative and transitive verbs in this construction.

Let us first consider the case of unaccusative verbs. If the acceptability of a verb in locative inversion were exclusively determined by lexical-syntactic factors, one would expect all unaccusative verbs to be admitted in this construction. However, as previously observed, only one subclass of unaccusatives tends to be allowed in locative inversion: the class of unaccusative verbs of existence and appearance. The unaccusative verbs which denote a change of state and disappearance are generally rejected in this type of SVI (cf. examples in (36)). In line with Levin and Rappaport Hovav (1995), I assume that these contrasts result from a discourse factor: the (in)compatibility of the verb with the discourse function of locative inversion, i.e., the function of presenting a non-presupposed referent on the scene set by the stage topic. While unaccusatives of existence and appearance readily conform to this discourse function by virtue of their inherent existential/presentational meaning, the unaccusative verbs of change of state and disappearance tend to be incompatible with this function. In fact, for these verbs it is difficult to accommodate a presentational function, since what melts or breaks usually disappears and what disappears cannot be introduced on the scene.

Crucially, unaccusative verbs of change of state and disappearance become felicitous in locative inversion in the following contexts: (i) when they are embedded in contexts where they lose their change-of-state interpretation and are understood as verbs of existence and appearance (Levin, 1993; Levin & Rappaport Hovav, 1995), as is the case with the verb "break" in (42a), and (ii) when the context in which they occur allows them to maintain their basic disappearance or change-of-state meaning and, simultaneously, fulfil the presentational function of locative inversion (Holler & Hartmann, 2012). For example, a sentence like (36c) is greatly improved when the subject is replaced by a presentable subject, as in (42b). As Holler and Hartmann (2012:

259) note, unlike snow, "an iceberg can be imagined as something that is melting without disappearing at the same time". Given that the subject can be presented on the scene set by the fronted PP, this sentence can fulfil the presentational function of locative inversion and is consequently accepted. Taken together, the distributional properties of unaccusatives strongly indicate that, for a verb to be admitted in locative inversion, it not only has to meet the lexical-syntactic restrictions of this construction, but also be compatible with its discourse function.

(42) a. Then broke the war, on those awful days in August (Levin & Rappaport Hovav, 1995: 234)

b. On the streets of Chicago melted an iceberg. (Holler & Hartmann, 2012: 259)

The distribution of transitive verbs in locative inversion also supports this conclusion. Transitives are only allowed in this construction when they appear in their passive form (43). Even in cases where the subject is heavy, active transitive verbs are generally excluded from locative inversion (44a). The only exception to this rule is the case of verbs which take idiomatic objects, such as "heave a sigh of relief" (44b).

(43) a. In this cave was found a treasure.

(44) a. *In this cave found a treasure the teenagers who live in the nearby village of Scala Kallonis.

b. Outside in the still upright hangar were heaving deep sighs of relief the few remaining pilots who had not been chosen to fly in the worst hurricane since hurricanes had names. (Culicover & Levine, 2001: 308)

At first glance, it may appear that the properties of the transitive verbs attested in light locative inversion can be straightforwardly explained as a reflection of the restriction of this type of SVI to unaccusative verbs, since the transitives allowed here – i.e., passivised transitives – are precisely the ones which have an argument structure akin to that of unaccusative verbs: [theme, (location)]. However, the infelicity of the following sentence, whose verb also has an argument structure similar to that of unaccusative verbs, suggests that this is not a sufficient condition for transitives to be admitted:

(45) ??In the kitchen were chopped pounds and pounds of mushrooms.

(Levin & Rappaport Hovav, 1995: 250)

Following Levin and Rappaport Hovav (1995), I argue that locative inversion is infelicitous with the passivised transitive verb in (45), because it makes the meaning of the sentence incompatible with the discourse function of this construction. In fact, a sentence that asserts that mushrooms are cut into pieces cannot accommodate the presentation of mushrooms on the scene and, consequently, cannot fulfil the presentational function of locative inversion. If the factors underlying the infelicity of (45) are of a discourse nature, then the same factors are very likely to justify the felicity of (43). Presumably, it is not only the unaccusative properties of the verb in (43) that make locative inversion possible, but also the fact that the meaning of the verb in that context is compatible with the discourse function of this construction. Thus, it seems that a combination of (lexical-)syntactic and discourse conditions is necessary to account for the distribution of transitive verbs in light locative inversion.

Similarly, the distributional properties of the transitives attested in heavy locative inversion only seem to be explainable on the basis of a combination of (lexical-)syntactic and discourse conditions. In fact, as noted by Culicover and Levine (2001) and Mendikoetxea (2006a, 2006b), while the incompatibility of light locative inversion with active transitive verbs can be explained in a simple way, given that this construction is only possible with verbs lacking external arguments (i.e., unaccusative), it is not clear from a syntactic point of view why the same restriction applies to heavy inversion, as its "derivation is such that it should be irrelevant whether there is an object or not in the VP" (Mendikoetxea, 2006b). In an attempt to solve this puzzle, I tentatively propose that the explanation for this fact is to be found in the discourse function of locative inversion and not in its syntax.

That the unacceptability of (44a) is not caused by (lexical-)syntactic factors is suggested by two facts. First, heavy but not light locative inversion is possible with the idiom "heave a sigh of relief" which involves a syntactically transitive verb (44b).[47] If

[47] There are two main syntactic theories of idiom formation (Cecchetto & Donati, to appear): the constituency theory and the selection theory. According to the former theory, an idiom forms a constituent at some underlying level of representation and is stored as a chunk in the lexicon. According to the latter theory, which was proposed by Bruening (2010) and O'Grady (1998), idioms need not form constituents, but they are subject to the constraints in (i) and (ii) (taken from Bruening, 2010: 532).

(i) ***The Principle of Idiomatic Interpretation***
X and Y may be interpreted idiomatically only if X selects Y.

(ii) ***Constraint on Idiomatic Interpretation***
If X selects a lexical category Y, and X and Y are interpreted idiomatically, all of the selected arguments of Y must be interpreted as part of the idiom that includes X and Y (Lexical categories are V, N, A, Adv).

the unacceptability of transitive verbs in heavy locative inversion were motivated by syntactic factors, we would expect heavy locative inversion with the transitive verb "heave" to be ungrammatical in the context of the idiom "heave a sigh of relief", just as light locative inversion is (compare (46) with (44b)). Second, as Culicover and Levine (2001) note, the transitives admitted in this construction have a characteristic in common: their object is neither referential nor assigned a theta-role. In other words, these verbs are semantically intransitive. The compatibility of heavy locative inversion with the verbs that take idiomatic objects, therefore, suggests that it is not syntactic transitivity that blocks locative inversion, but rather semantic transitivity.

(46) *Outside in the still upright hangar was heaving deep sighs of relief the pilot. (Rizzi & Shlonsky, 2006: 11)

Possibly, the exclusion of semantically transitive verbs has to do with the fact that locative inversion typically receives a thetic, wide focus interpretation related to a stage topic.[48] As Zubizarreta and Nava (Nava & Zubizarreta, 2010; Zubizarreta & Nava, 2011) independently show on the basis of experimental data on nuclear stress assignment in English, not all verbs can receive a thetic reading: while intransitives afford a thetic interpretation, active transitive verbs force a categorical reading of any statement, i.e., a reading which involves the act of naming the subject and the act of predicating something about it. Thus, the presence of an object completely blocks a unitary, non-predicative thetic interpretation of the sentence. I tentatively propose that the transitives which are semantically intransitive do not pattern like "full" transitives

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The existence of idioms that take non-idiomatic modifiers, such as the one in (iii), argues in favour of the selection theory and against the constituency theory of idioms. As Bruening (2010) notes, the idiom in (iii) is just "pull strings", which consists of a verb and its selected object. The determiner and any adjectives are not part of the idiom. The presence of this non-idiomatic material within the idiom is hard to explain under the traditional view that idioms form fixed constituents. By contrast, the theory that idioms are formed through selection can deal with the facts illustrated in (iii). As Bruening (2010: 533) points out, "in stating the principles in terms of selection, we expect nonselected items, like adjectives, possessors, and determiners, to vary freely within an idiom, and they do". Only selected items are expected to be invariable.

(iii) a. Pull *some discreet* strings
b. Pull *a few* strings
c. Pull *yet more* strings (Bruening, 2010: 533)

From this it follows that an idiom like "heave a sigh of relief" should not be seen as a multi-word item that is stored and used as a single lexical item. Rather, it should be seen as a case where the verb "heave" and the object it selected, i.e.,"a sigh of relief", are interpreted idiomatically. Crucially, this object, though idiomatic, occupies the object position in underlying syntax, just as non-idiomatic objects do.

[48] As mentioned in section 4.2.1, the only exception to this rule seems to be the less common case where locative inversion is embedded in a narrow focus context (i). Here, unlike what happens in thetic sentences, like (ib), the subject and the verb do not have the same discourse status.

(i) a. A: Who appeared in the garage? B: In the garage appeared Jane's grandmother.
b. A: What happened in the garage? B: In the garage appeared Jane's grandmother.

regarding the thetic/categorical distinction, because this distinction does not depend on purely syntactic factors, but rather on semantic-pragmatic factors. This means that it is the semantic (and not the purely syntactic) presence of an object that blocks a thetic reading.

Based on the facts presented above, I conclude that the distribution of both unaccusative and transitive verbs is only explainable on the basis of a combination of lexical-syntactic and discourse considerations. Given that there appears to be no good reason to postulate that discourse considerations only apply to these verbs, I claim that unergative verbs are also sensitive to such considerations. This implies that, contrary to what one might be led to think at first sight, redundant unergatives admit locative inversion not only because of their unaccusative status, but also because the existential/presentational reading they receive is compatible with the presentational function of this construction and the thetic interpretation it usually has. Likewise, non-redundant unergatives with a heavy subject are allowed in locative inversion not only because the heavy subject can be moved to a right-adjoined position, but also because the noteworthiness of the heavy subject probably counterbalances the noteworthiness of the verb, thus making a unitary, non-predicative thetic reading possible.

To sum up, the idiosyncratic distribution of verbs in locative inversion is not explainable either by purely lexical-syntactic accounts or by purely discourse accounts. Only by simultaneously considering their discourse and lexical-syntactic properties can one capture the rules that govern their distribution. In the present work, I assume that, in English locative inversion, verbs are subject to the following lexical-syntactic and discourse conditions:

(47) ***Conditions on verbs in English locative inversion***

a. When the subject is light, the verb must be unaccusative(-like).

b. Non-unaccusative-like verbs must occur with a heavy, extraposed subject.

c. In light and heavy locative inversion, the verb must be relatively unnoteworthy in relation to the subject and compatible with a presentational/existential function, in order to allow the sentence to fulfil the following discourse function: to present a non-presupposed referent on the scene set by the stage topic.

As shown in this section, the lexical-syntactic conditions in (47a) and (47b), combined with the discourse condition in (47c), can successfully account for all the distributional properties of verbs in light and heavy locative inversion, which are summarised in table 4.1.

	Verb class	Light locative inversion	Heavy locative inversion
Unacusatives	*Be*	✓	✓
	Unaccusatives of existence and appearance	✓	✓
	Unaccusatives of disappearance[49]	✓	✓
	Unaccusatives of change of state[49]	✓	✓
Unergatives	Unergatives of manner of motion + directional PP	✓	✓
	Redundant unergatives	✓	✓
	Non-redundant unergatives	×	✓
Transitives	Passivised transitive verbs	✓	✓
	Active transitive verbs with idiomatic objects	×	✓
	Active transitive verbs with non-idiomatic objects	×	×

Table 4.1*.Verbs admitted in light and heavy locative inversion*

4.2.3. *Syntactic derivation*

In the present analysis of English locative inversion, one core question remains to be answered: How is locative inversion derived? Over the past decades, different answers to this question have been proposed (cf. Bresnan, 1994; Broekhuis, 2005; Coopmans, 1989; Culicover & Levine, 2001; Emonds, 1976; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Rizzi & Shlonsky, 2006; Rochemont & Culicover, 1990; Salzmann, 2013; among others). The aim of this section is not to review the various analyses available, since this would take us far afield and away from the primary focus of the present chapter. Rather, its aim is to outline the analysis which will be assumed in this work.

[49] These verbs are rare in locative inversion, as their semantics is not readily compatible with condition (47c). Only when embedded in carefully manipulated contexts which meet such condition are they allowed.

One important fact that such an analysis needs to account for is the differential behaviour exhibited by V+light subject structures and V+heavy subject structures with respect to various syntactic phenomena (for further details, cf. Culicover & Levine, 2001), including:

i. *Verb distribution*: When the subject is light, locative inversion only admits verbs that lack an external argument (i.e., unaccusatives), but, when the subject is heavy, it admits unaccusative, unergative and some transitive verbs (cf. section 4.2.2.).

ii. *Adverb placement*: Light subjects can occur before a manner adverb, but not after it (48a-b), whereas heavy subjects can appear after such an adverb, but not before it (48c-d). Since manner adverbs are assumed to mark the right edge of the VP, this suggests that light, but crucially not heavy, subjects are inside the VP.

(48) a. Into the room walked Robin carefully.
b. *Into the room walked carefully Robin.
c. In the room slept fitfully the students in the class who had heard about the social psych experiment that we were about to perpetrate.
d. *In the room slept the students in the class who had heard about the social psych experiment that we were about to perpetrate (very) fitfully.

(Culicover & Levine, 2001: 292-293)

iii. *Floating quantifiers*: In locative inversion with light subjects, a floating quantifier like "both" can appear immediately before the DP it modifies, but not between the auxiliary and the participle (i.e., it does not "float") (49a-b). In contrast, when the subject is heavy, the quantifier can "float" (49c). Under Doetjes's (1992) analysis of floating quantifiers, which posits that these elements appear immediately to the left of every position occupied by the element it modifies in the course of the sentence's derivation, this contrast can been seen as an indication that, in locative inversion, light subjects do not leave their base-generated position, whereas heavy subjects do.

(49) a. A: Who went into the cafeteria? B: Into the cafeteria have gone both (of the) the students, I think.
b. A: Who went into the cafeteria? B: *Into the cafeteria have both gone the students, I think.

c. Everyone seemed very hungry today. For example, into the cafeteria have both gone the two students that I was telling you about. (Culicover & Levine, 2001: 301)

Following Culicover and Levine (2001) and Rizzi and Shlonsky (2006), I assume that the only way to account for these differences is to posit the existence of two structurally-distinct types of locative inversion: (i) *light locative inversion*, i.e., inversion with a light subject that remains *in situ* in its VP-internal position throughout the derivation, and (ii) *heavy locative inversion*, i.e., inversion with a heavy subject[50] that undergoes heavy DP-shift to a right-adjoined position. The focus of the present thesis will be on light locative inversion. For this reason, this is the only type of locative inversion that is analysed in detail in the present section.

Culicover and Levine (2001) and Rizzi and Shlonsky (2006) offer similar analyses of light locative inversion. They both agree that, in this type of inversion, the subject and the lexical verb remain inside the VP throughout the derivation. They only disagree with respect to the position of the pre-verbal XP. On the one hand, Culicover and Levine (2001) argue that this XP moves to Spec, IP and thus satisfies the EPP. Rizzi and Shlonsky (2006), on the other hand, defend that the pre-verbal XP occupies a position in the left periphery and satisfies the EPP (in their terms "the Subject Criterion"[51]) in an indirect way. More specifically, they propose that, in English-like languages, the lowest head of the complementizer system, at the junction between the C and I systems, Fin(iteness) (Rizzi, 1997), is rendered nominal by a [+Loc] feature, "a particular kind of Phi-feature" (Rizzi & Shlonsky, 2006: 346), and that nominal Fin can satisfy the EPP in the absence of a nominal in the subject position (in their analysis, Spec, Subj). Based on these assumptions, Rizzi and Shlonsky (2006) defend that the derivation of light locative inversion proceeds as follows: the locative constituent moves to Spec, Fin to value the Loc feature in Fin, and, since Fin is not a criterial position, i.e., its head does not assign any special interpretative property to its Spec, it must move further to a scope-discourse (criterial) position in the left periphery, like a topic position, to comply with the Last Resort guidelines on movement, which Rizzi and Shlonsky

[50] It is unclear exactly how heavy the subject has to be to undergo heavy locative inversion.

[51] This term is due to Rizzi (2003), who proposes that the EPP should be reanalysed as a Subject Criterion in the following terms: the functional head Subj, distinct from and higher than T, attracts a nominal to its Spec, determining the subject-predicate articulation.

(2006) interpret in terms of criterion satisfaction (the formal expression of a scope-discourse interpretative property).

The idea that it is the preposed constituent that satisfies the EPP in an indirect way while en route to a left-peripheral topic position is attractive in that it captures the fact that pre-verbal XPs have the discourse status of stage topics in all instances of locative inversion and accounts for the mixed syntactic behaviour of these XPs. As various authors have shown (cf. Bresnan, 1994), on the one hand, these constituents appear to behave like subjects in a number of syntactic ways. For example, like subjects and unlike non-subjects, preposed locatives do not require *do*-support and I-to-C movement for *wh*-question formation (50) and trigger *that*-trace effects (51).

(50) a. Out of which barn ran a horse?
b.*Out of which barn did run a horse?
c. Who ran out of the barn?
d. *Who did run out of the barn?
e. *What sold John?
f. What did John sell?

(51) a. In which villages do you believe (*that) can be found examples of this cuisine?
b. Who did you say (*that) came?
c. What did you say (that) John bought?

On the other hand, the pre-verbal constituents in locative inversion possess certain properties in common with topicalized XPs, which appear to indicate that they are not in a subject position, but rather in a topic position, notably: (i) incompatibility with I-to-C movement (52), and (ii) incompatibility with structures which do not license left-peripheral positions, such as sentential subjects (53), and exceptional-case marking structures like (54). These facts remain unexplained under Culicover and Levine's (2001) analysis, which claims that light subjects occupy Spec, IP, and not a topic position.

(52) a. * Did on the wall hang a picture?
b. * Was among the ruins found a skeleton? (from Bresnan, 1994: 108)
c. * Does to Imogen, Brian ever give presents (from den Dikken, 2006: 99)

(53) a. *That in the chair was sitting my brother is obvious.

b. *That this book, you should read is obvious.

(adapted from Rizzi & Shlonsky, 2006: 343)

(54) a. *I expect in the room to be sitting my brother.

b. *I expect this book John to read.

(adapted from Rizzi & Shlonsky, 2006: 343)

As Rizzi and Shlonsky (2006) provide an analysis of light locative inversion that accounts for various facts that Culicover and Levine (2001) leave unexplained and is compatible with my claim that the pre-verbal XPs of locative inversion structures are stage topics, I adopt their analysis in the present work.

4.2.4. *Interim summary 1*

To sum up, English locative inversion serves the function of presenting a non-presupposed referent on a scene set by a stage topic and is typically associated with a thetic, wide focus interpretation. From a syntactic point of view, locative inversion can be subdivided into two types: light and heavy locative inversion. The subtype of locative inversion on which the present thesis focuses – i.e., light locative inversion – is subject to the following lexical-syntactic and discourse conditions:

(55) ***Conditions on English light locative inversion***

a. *Pre-verbal constituent:* must be an overt stage topic.

b. Post-verbal subject: must be (part of) the focus of the sentence.

c. Verb:

i. the verb must be relatively unnoteworthy in relation to the subject and compatible with a presentational/existential function, in order to allow the sentence to fulfil the following discourse function: to present a non-presupposed referent on the scene set by the stage topic.

ii. it must be unaccusative(-like).

As will be seen in the next section, some of these conditions also apply to another SVI structure of the English language: *there*-constructions.

4.3. *There*-constructions

In *there*-constructions, the logical subject occurs in post-verbal position, while the canonical subject position is filled by the expletive subject *there* (56-57). For this reason, *there*-constructions are also called expletive-associate inversion. In this type of inversion, the subject position has to be filled by an overt expletive because English has a positive setting for the PF-interpretability micro-parameter (cf. chapter 3), which determines that, in this language, the EPP has to be satisfied by phonetically realised material. Crucially, not all expletives can occupy the subject position in English expletive-associate inversion. As shown in (56), while the expletive *there* is permitted in this structure, the expletive *it* is not. In this thesis, I assume that it is the mapping system between lexicon and syntax that decides the syntactic behaviour of each of the overt expletives available in the mental lexicon of English speakers and is ultimately responsible for the ungrammaticality of *it* and the grammaticality of *there* in (56).

(56) a. A shark appeared near the coast.
b. There appeared a shark near the coast.
c. *It appeared a shark near the coast.

In English, *there*-constructions can assume two basic forms: *there* V S, as in (58a), or *there* V S + extension (or coda), as in (56b), (57b) and (58b-c). In the literature, the *there*-constructions which occur with the verb "be", like (57b), are usually called "existential *there*-constructions", whereas those which take verbs other than "be", like (56b), are termed "presentational *there*-constructions". The focus of the present thesis will be on the latter type of constructions, which are very rare in English (Biber, Johansson, Leech, Conrad, & Finegan, 1999; Haegeman & Guéron, 1999) and far less common than locative inversion with verbs other than "be" (Biber et al., 1999). As the thesis only tests presentational *there*-constructions, this is the only type of expletive-associate inversion that will be analysed in this section. For the sake of simplicity, I will hereafter use the term "*there*-constructions" to refer to "presentational *there*-constructions".

(57) a. A shark was near the coast.
b. There was a shark near the coast.

(58) a. There is plenty of ice-cream.
b. There were some boys *playing cricket*.

c. There was one man *who kept interrupting*.

(Ward et al., 2002: 1393-1396)

As is the case with locative inversion constructions, *there*-constructions serve an information-packaging function: they are devices for presenting a non-presupposed entity (on a scene) (Breivik, 1981; Kuno & Takami, 2004). They describe a situation as a whole, without assigning a topic status or giving any type of informational highlighting to any constituent. In other words, they encode theticity in English (Hartmann, 2008; Sasse, 1987; Zubizarreta & Nava, 2011; among others). Their theticity is confirmed by question-answer tests, such as (59), which show that a *there*-sentence can only be embedded in discourse contexts where all the constituents of the sentence have the same discourse status and are thus interpreted as a single informational unit.

(59) a. ***Narrow subject focus***

A: Who appeared (in the park)? B: #There appeared an alien (in the park).

b. ***Presupposed subject + verb (and locative) interpreted as focus***

A: What did an alien do? B: #There appeared an alien (in the park).

c. ***Presupposed subject and verb + locative interpreted as focus***

A: Where did an alien appear? B: #There appeared an alien in the park.

d. ***All focus***

A: What happened? B: There appeared an alien (in the park).

Though necessary, the fulfilment of the discourse function just outlined is not a sufficient condition for ensuring the well-formedness of *there*-constructions, as they are governed by a number of additional constraints of a syntactic and semantic nature. In what follows, the constraints on the post-verbal subject and the verb of *there*-constructions will be described in detail and a syntactic analysis will be proposed.

4.3.1. *The post-verbal subject*

The post-verbal subject of *there*-constructions is subject to discourse and semantic constraints. On the one hand, at the level of discourse, the subject is required to be part of the wide focus of the sentence, as shown by (60). On the other hand, at the level of semantics, the post-verbal subject is typically required to be indefinite (61). This restriction is generally labelled the "definiteness effect" (Abbott, 1992, 1997;

Belletti & Bianchi, 2016; Haegeman & Guéron, 1999; Hartmann, 2008; McNally, 2011; Milsark, 1974; among others).

(60) a. A: Where did a group of lions appear? B: #There appeared a group of lions [$_{FOC}$ near the jeep].

b. A: What appeared near the jeep? B: #There appeared [$_{FOC}$ a group of lions] near the jeep.

c. A: Why was everybody screaming? What happened? B: [$_{FOC}$ There appeared a group of lions near the jeep].

(61) There arose a storm /*the storm.

While the former constraint always applies to *there*-constructions, the latter seems to be suspended under certain circumstances. For example, definite DPs can appear in the post-verbal position of *there*-constructions when they are part of a list, as in (62) (for detailed descriptions of the contexts where definites are admitted, cf. McNally, 2011; Ward & Birner, 1995).[52]

(62) At first they could see nothing but the road and the trees. But then, as they rounded the bend in the road, [there came into view the grocery store, the barbershop, and the little ramshackle ice cream parlour]. (Ward et al., 2002: 1403)

In the light of the facts described above, it can be concluded that the rules which govern post-verbal subjects in *there*-constructions differ from those which apply to locative inversion in two respects: (i) unlike locative inversion, *there*-constructions are generally incompatible with narrow focus on the subject, as shown in (63), and (ii) *there*-constructions tend to be subject to definiteness effects, which are not found in locative inversion (64).

(63) A: What appeared near the jeep? B: Near the jeep appeared a group of lions. / #There appeared a group of lions near the jeep.

(64) a. *There was the dusty old chair in the corner.

b. In the corner was the dusty old chair. (Sheehan, 2007: 144)

[52] Analysing the definiteness effect and its apparent exceptions in detail is beyond the scope of the present work, since we are mainly concerned with properties relevant to the syntax-discourse interface. We refer the interested reader to comprehensive overviews by Hartmann (2008) and McNally (2011).

4.3.2. *The verb*

In English, *there* occurs as the subject of the verb "be" and of a restricted class of intransitive verbs, which bears a strong resemblance to the unaccusative verb class (65). As Deal (2009) and Harwood (2013) point out, generally, the expletive *there* only co-occurs with unergative verbs when they are in the progressive participle form (66).[53] For this reason, *there*-constructions have been argued to be an unaccusativity diagnostic (Belletti, 1988; Burzio, 1986; Lumsden, 1988; Stowell, 1981; among many others). However, examples like (67) indicate that, as observed in the case of locative inversion, the group of verbs attested in *there*-constructions is too large to conform to this characterisation without further stipulations. A more detailed and systematic description of the distribution of verbs in this type of SVI is, therefore, needed.

(65) a. There is a man in the garden. (*be*)
b. There arrived a man in the garden. (*unaccusative*)
c. *There ran a man in the garden. (*unergative*)
d. *There ate an apple a man in the garden. (*transitive*)

(66) a.*There will run a man in the garden.
b. *There has run a man in the garden.
c. There was a man running in the garden.

(67) There once ruled a king who had no ears. (*unergative*)

(Kuno & Takami, 2004: 58-59)

Let us begin by examining the distribution of unaccusative verbs. As advocated by the proponents of the view that *there*-constructions are an unaccusativity diagnostic, the verbs which occur most readily in these constructions belong to the class of unaccusative verbs of existence and appearance. This class includes existential verbs, like "exist" (68a), verbs of spatial configuration, like "stand" (68b), verbs of appearance, like "appear" (68c), and verbs of inherently directed motion, like "arrive" (68d) (for a complete list, cf. Levin, 1993).

(68) a. There exist various solutions to this problem.
b. There stood an old grandfather clock in the hall opposite the front door. (Lumsden, 1988: 41)

[53] The reason for this exception will not be analysed in the present work, since this will not be explored in our experimental work. We refer the interested reader to work by Harwood (2013).

c. There has just appeared a new book by Chomsky.

d. There arrived someone in the kitchen.

The unaccusative verbs which denote disappearance, such as "vanish" and "disappear", as well as those which express a change of state, such as "break" and "dissolve", are rejected in *there*-constructions (69), except when they occur in the following contexts: (i) a context where they are forced to lose their change-of-state interpretation and be understood as verbs of existence and appearance (Levin, 1993; Milsark, 1974), as in (70), or (ii) a context which allows them to maintain their basic disappearance or change-of-state meaning and, simultaneously, fulfil the discourse function of *there*-constructions (Kuno & Takami, 2004), i.e., to present a non-presupposed entity (on a scene). To illustrate this point, consider the minimal pair in (71). In both sentences, the verb *dissolve* expresses change of state. Despite this similarity, these sentences differ with respect to their compatibility with the presentational function associated with *there*-constructions. The sentence (71a) is incompatible with this function, since, when a mass of ectoplasm dissolves, it disappears. The sentence (71b), on the other hand, can fulfil a presentational function, thanks to the insertion of the adverb *slowly*, which suggests that the mass of ectoplasm still exists and is hence presentable.

(69) a. ??There disappeared a girl.

b. ??There melted a lot of snow on the streets of Chicago. (Levin, 1993: 90)

c. ?? There broke a window in the apartment.

(70) In January 1908 there broke an intriguing news scandal. (Watt, A. (2011). *The Cambridge introduction to Marcel Proust*. Cambridge: Cambridge University Press. p.13).

(71) a. There slowly dissolved a mass of ectoplasm.

b. ??There dissolved a mass of ectoplasm. (Bolinger, 1977: 97)

The differences in acceptability within the pairs of sentences (69c) - (70) and (71a) - (71b) indicate that the acceptability of *there*-constructions is not dependent on (sub)classes of verbs alone, but on discourse factors, as well. Furthermore, they show that, contrary to what is frequently assumed in the literature (e.g., Deal, 2009; Freeze, 1992; Levin, 1993; among others), unaccusative verbs expressing change of state and disappearance are not fully excluded from *there*-constructions. Presumably, the reason for their low productivity lies in the fact that they do not readily accommodate the

presentational function associated with this construction. As shown above, only when embedded in carefully manipulated contexts can these verbs allow a sentence to receive a presentational interpretation. A similar line of reasoning can be pursued to explain the high productivity of unaccusative verbs of existence and appearance: they are productive because they are inherently compatible with a presentational function by virtue of their semantics. In short, it can be concluded that *there*-constructions admit all types of unaccusative verbs, but these verbs are not equally productive due to factors pertaining to the domain of discourse.

Let us now analyse the distribution of unergative verbs in *there*-constructions. Similarly to what occurs in locative inversion (cf. section 4.2.2), in these constructions, the distribution of unergatives depends on the heaviness of the post-verbal subject. When the subject is light, unergative verbs are only admitted in two cases: (i) when they are verbs of manner of motion and co-occur with a directional PP (cf. Levin, 1993), as in (72), and (ii) when they are redundant, i.e., when they express a prototypical action of the subject referent, as in (73a). As explained in detail in section 4.2.2, in both cases, unergatives seem to behave more like unaccusative verbs than like "true" unergative verbs. As illustrated in (74), "true" unergatives are only allowed in *there*-constructions with structurally heavy subjects. Crucially, in this context, the subject must occupy a VP-external position, after the verb, the adverb and/or the PP (cf. examples (74a) *vs.* (74c)).

(72) There darted / ran / walked into the room a little boy.

(73) a. There waved a tattered banner from the flagpole.
b. *There waved a bearded student from the roof. (Lumsden, 1988: 37)

(74) a. There slept fitfully in the next room a group of the students in the class who had heard about the social psych experiment that we were about to perpetrate. (Culicover & Levine, 2001: 296)
b. In the next room there slept fitfully a group of the students in the class who had heard about the social psych experiment that we were about to perpetrate. (Culicover & Levine, 2001: 296)
c. *There slept a group of the students in the class who had heard about the social psych experiment that we were about to perpetrate fitfully in the next room.

As will be shown in more detail in section 4.3.3, the grammaticality contrasts between (74a-b) and (74c) are motivated by the fact that the subject occupies different syntactic positions in the configurations *there* V S (Adv) PP and *there* V (Adv) PP S. In the first configuration, the subject is in the object position inside the VP, and hence the verb must be unaccusative-like, as in (73a). In the latter configuration, the subject is in a right-adjoined position, to which only heavy DPs appear to be able to move (cf. Rochemont & Culicover, 1990). For this reason, the verb is not required to be unaccusative, but needs to co-occur with a heavy subject for the construction to be grammatical. From this analysis, it follows that the instances of *there*-constructions that take the form *there* V S (Adv) PP, but crucially not those of the form *there* V (Adv) PP S, can diagnose unaccusativity, as originally proposed by Burzio (1986).

Given that there appears to be no sound reason to postulate that unaccusative verbs are the only class of verbs that is required to be compatible with the discourse function of *there*-constructions, I propose that this condition also applies to unergative verbs. This means that redundant unergatives are admitted in *there*-constructions not only because of their unaccusative status, but also because their existential meaning is compatible with the presentational function of this type of SVI. Similarly, I hypothesise that true unergative verbs are allowed in heavy *there*-constructions not only because the heavy subject can be moved to a right-adjoined position, but also because the noteworthiness of the heavy subject counterbalances the noteworthiness of the verb, thus enabling a unitary, non-predicative thetic reading of the sentence.

To conclude, let us briefly examine the behaviour of transitive verbs in *there*-constructions. While linguists agree that transitive verbs in the active voice are ungrammatical in *there*-constructions (75), there is no consensus with respect to the exact conditions under which passivised transitive verbs are admitted in these constructions. For example, Radford (2009) considers the sentence in (76) grammatical. In contrast, Law (1999) and Lasnik (1995) claim that sentences like (77a), which is similar to (76), are ungrammatical. These authors only admit passivised transitives in *there*-constructions when the subject occurs between "be" and the main verb, as in (77b). As transitive verbs are not tested in the present thesis, I leave the details of their distribution in *there*-constructions for future work.

(75) *There ate a man an apple.

(76) There have been reported several cases of syntactophobia. (Radford, 2009: 256)

(77) a. *There has been put a book on the table.

b. There has been a book put on the table. (Lasnik, 1995)

From the data presented in this section, it can be concluded that the distribution of verbs in *there*-constructions is very similar to that of locative inversion. Just like locative inversion, the types of verbs allowed in these constructions vary according to whether the subject is light or heavy, as shown in table 4.2.

	Verb class	Light *there*-sentences	Heavy *there*-sentences
	Be	✓	✓
Unacusatives	Unaccusatives of existence and appearance	✓	✓
Unacusatives	Unaccusatives of disappearance[54]	✓	✓
Unacusatives	Unaccusatives of change of state[54]	✓	✓
Unergatives	Unergatives of manner of motion + directional PP	✓	✓
Unergatives	Redundant unergatives	✓	✓
Unergatives	Non-redundant unergatives	×	✓
Transitives	Passive transitive verbs	✓	✓
Transitives	Active transitive verbs	×	×[55]

Table 4.2*. Verbs admitted in light and heavy there-constructions*

As is the case with locative inversion, the idiosyncrasies of the distribution of the verb in *there*-constructions can only be explained if one simultaneously considers their lexical-syntactic and discourse properties. In this thesis, I assume that the

[54] These verbs are rare in *there*-constructions, as their semantics is not readily compatible with condition (78c). Only when embedded in carefully manipulated contexts which meet such a condition are they allowed.

[55] Active transitive verbs seem to be admitted only in very rare cases where the subject is very heavy and the object receives an idiomatic interpretation, as in (i).

(i) There reached his ear from far down the woodland path the sounds of voices and laughter again and again. (Allen, J. L. (2005). *The choir invisible*. Fairfield: 1st World Library. p.230)

discourse and lexical-syntactic conditions to which the verbs are subject are the following:

(78) ***Conditions to which verbs are subject in* there*-constructions***

a. When the subject is light, the verb must be unaccusative(-like).

b. Non-unaccusative-like verbs must occur with a heavy, extraposed subject.

c. In *there*-constructions with light and heavy subjects, the verb must be relatively unnoteworthy in relation to the subject, compatible with a presentational/existential function and part of the focus, in order to allow the sentence to fulfil the following discourse function: to present a non-presupposed referent (on a scene) in a thetic way (i.e., as a single informational unit, without internal partitions).

4.3.3. *Syntactic derivation*

The syntax of *there*-constructions is a topic that has attracted much interest in theoretical linguistics since the 1970s. For this reason, we find a large number of alternative analyses for these constructions in the literature (e.g., Alexiadou & Schafër, 2010; Chomsky, 1981, 1995, 2000, 2001; Deal, 2009; Hartmann, 2008; Hoekstra & Mulder, 1990; Radford, 2009; Rochemont & Culicover, 1990; among many others). The aim of this section is not to review these analyses, but rather to outline the analysis which will be assumed throughout the present thesis.

A key fact that needs to be accounted for in our analysis is the differential behaviour exhibited by V+light subject structures and V+heavy subject structures with respect to the following syntactic phenomena:

i. *Verb distribution*: When the subject is light, *there*-constructions only admit unaccusative verbs (79a-b). However, when the subject is heavy, they allow not only these verbs (79c), but also unergative (79d).

(79) a. There appeared a student in the room.

b. *There slept a student in the room.

c. There appeared in the room a group of students from the class who had heard about the social psych experiment that we were about to perpetrate.

d. There slept in the room a group of students from the class who had heard about the social psych experiment that we were about to perpetrate.

ii. *Placement of PPs and manner adverbs*: Light subjects can occur before a manner adverb and a PP, whereas heavy subjects cannot (cf. (80a) and (80b)). They must appear after these elements, as in (80c). Given that manner adverbs and spatio-temporal PPs are assumed to mark the right edge of the VP, the word order facts illustrated in (80) suggest that light subjects are inside the VP, but heavy subjects are not.

(80) a. There emerged an alligator (slowly) from the lake.
b. *There slept a group of students who had heard about the social psych experiment that we were about to perpetrate fitfully in the next room.
c. There slept fitfully in the next room a group of students who had heard about the social psych experiment that we were about to perpetrate.

The evidence presented above indicates that *there*-constructions pattern like locative inversion with respect to heavy and light subjects (cf. section 4.2.3). For this reason, analogously to what I did in the case of locative inversion, I assume with Rochemont and Culicover (1990) that what is generally called "*there*-constructions" is a conflation of two syntactically different, but related constructions, which I label light and heavy *there*-constructions.

As is the case with light and heavy locative inversion, the key difference between heavy and light *there*-constructions lies in the fact that the subject DP occupies distinct syntactic positions in each of these structures. In light *there*-constructions, the subject is base-generated in the complement position of the VP and remains in that position throughout the derivation of the sentence. As a consequence, the verb must be unaccusative-like (i.e., it must select only an internal argument). In contrast, in heavy *there*-constructions, the subject undergoes heavy DP shift to the right periphery (for details see Rochemont & Culicover, 1990). In this case, the verb is not required to be unaccusative, because heavy subjects can move to a right-adjoined position regardless of whether they are generated in Spec, VP or in the complement position of the VP.

Since the focus of the present thesis will be on light *there*-constructions, here I only provide a detailed analysis of this type of inversion. Following standard analyses (e.g., Chomsky, 1981, 1995 and subsequent work), I assume that, in light *there*-constructions, the subject DP is allowed to remain *in situ*, because the EPP is satisfied

by the expletive *there*, which is externally merged in the canonical subject position, Spec, IP.[5657] In line with Chomsky (2000, 2001), I further assume that *there* is a deficient nominal which cannot participate in case-checking relations, and that T assigns nominative Case (and accompanying agreement features) by entering into a long-distance Agree relation with the subject DP. This straightforwardly captures the fact that the lexical verb typically agrees with the post-verbal DP, rather than with *there:*[58]

(81) a. There is a woman in the office.
b. There are two women in the office.

In light *there*-constructions, the verb remains inside the VP throughout the derivation, except for copula *be* and auxiliary verbs, which are the only verbs that can undergo V-to-I movement in English. When these constructions include a locative PP, it can either remain in its base position or move to a topic position in the left periphery (82).

(82) a. There appeared a ship on the horizon.
b. On the horizon there appeared a ship.

4.3.4. *Interim summary 2*

To sum up, English *there*-constructions are a type of SVI which encodes theticity and serves the function of presenting a non-presupposed referent (on a scene). These constructions encompass two related, but structurally different phenomena: light and heavy *there*-constructions. The subtype of *there*-constructions on which the present thesis focuses – i.e. light *there*-constructions – is subject to the following (lexical-) syntactic and discourse conditions:

(83) ***Conditions on English light* there-*constructions***
a. *Pre-verbal position*: must be occupied by the expletive *there*.
b. *Verb:*

[56] In the present thesis, I use "Spec, IP" as a cover term to refer to the canonical subject position.
[57] That *there* is in the subject position and not in a topic position like the pre-verbal XPs of locative inversion is suggested by the following contrasts between *there* and locatives regarding I-to-C movement (i), and structures which do not license left-peripheral positions, such as exceptional-case marking structures (ii):
(i) a.* Did on the wall hang a portrait of our founder?
b. Did there hang on the wall a portrait of our founder?
(ii) a. *I expect on this wall to be hung a portrait of our founder.
b. I expect there to be hung a portrait of our founder.
(Bresnan, 1994: 109)
[58] In informal speech, the verb sometimes agrees with *there* (e.g., "there's some apples on the table").

i. it must be unaccusative(-like).

ii. it must be relatively unnoteworthy in relation to the subject, compatible with a presentational/existential function and part of the focus, in order to allow the sentence to fulfil the following discourse function: to present a non-presupposed referent (on a scene) in a thetic way (i.e., as a single informational unit, without internal partitions).

c. *Post-verbal subject*:

i. must be part of the focus of the sentence.

ii. must be indefinite (except in a restricted number of contexts - cf. section 4.3.1).

4.4. Summary

In conclusion, SVI is only permitted in a limited set of structures in English. Since this language does not license null subjects, in all English SVI structures, the logical subject is only allowed not to move to the canonical subject position when the EPP can be satisfied by some other overtly realised element, such as the expletive *there* or a preposed loco-temporal XP. Out of the SVI structures permitted in English, *there*-constructions and locative inversion are probably the most productive ones. As shown throughout this chapter, these constructions are similar in two crucial respects: (i) they are both unaccusativity diagnostics when they occur with structurally light subjects, and (ii) serve the discourse function of presenting a non-presupposed referent (on a spatio-temporal scene). These SVI constructions, therefore, involve a three-way interface between lexicon, syntax and discourse. Given that time and space considerations would prohibit me from investigating in satisfactory depth the L2 acquisition of all of the types of locative inversion and *there*-sentences that exist in English, I decided to exclusively focus on the acquisition of light locative inversion and light *there*-constructions in the present thesis. These are the types of structures that Culicover and colleagues (cf. Culicover & Levine, 2001; Rochemont & Culicover, 1990) consider to be the true instances of locative inversion and of expletive-associate inversion.

Chapter 5

Subject-verb inversion in French

5.1. Introduction

Like English, French is a NNSL and, as such, does not allow "free" inversion (1). This language, however, admits SVI in a wider range of contexts than English. In embedded clauses, SVI is permitted in such contexts as relative clauses (2a), complement clauses in the subjunctive mood (2b) and certain adverbial clauses (2c) (cf. Fuchs, 2006; Jones, 1996; Kampers-Manhe, Marandin, Drijkoningen, Doetjes, & Hulk, 2004; Lahousse, 2003, 2011; Riegel, Pellat, & Rioul, 1994; Rowlett, 2007; among others). In simple (declarative) sentences and matrix clauses, SVI is only possible in the following contexts (cf. Lahousse, 2003, 2011): (i) when the clause-initial position is occupied by an identificational focus particle, such as *ainsi* 'thus' in example (3a); (ii) when the post-verbal subject receives identificational focus, as in (3b); (iii) in locative inversion structures, like (3c); and (iv) in expletive-associate inversion structures, such as (3d).[59]

(1) a. Qui est arrivé? i. *Est arrivé Jean. ii. C'est Jean (qui est arrivé).
who arrived arrived Jean it's Jean who arrived

b. Qu'est-ce qui s'est passé? i. *Est arrivé Jean. ii. Jean est arrivé.
what happened arrived Jean Jean arrived

(2) a. Le Monde est le journal que lit la plupart des intellectuels français.
le Monde is the newspaper that reads the majority of-the intellectuals French

b. Je veux que viennent Jean et Manon.

[59]Bonami, Godard, and Marandin (1999) and Marandin (2001) defend that French has an additional type of SVI: unaccusative inversion. According to them, the SVI structures which are introduced by anaphoric temporal adverbs such as *alors* 'then' and *soudain* 'suddenly' are instances of unaccusative inversion (i). This view is challenged by Lahousse (2006, 2007), who proposes to unify "unaccusative inversion" and other forms of SVI which do not involve identificational focus under the label "genuine inversion". In this thesis, I take the type of SVI in (i) to be a form of locative inversion. This is because, as Lahousse (2003, 2007, 2011) shows, this SVI involves a stage topic.

(i) Le silence se fit. Alors sont entrés deux hommes
the silence REFL fell. then are entered two men

(Marandin, 2001)

I want that come-SBJV.3PL Jean and Manon

c. Quand arrive le Printemps, les champs se couvrent de fleurs.
when arrives the Spring the fields become-covered in flowers

(3) a. Ainsi doivent espérer les condamnés à mort.
thus must wait the death row inmates

b. Passeront devant le conseil de discipline les élèves suivants : Pierre Dupond, Marie Dubois et Paul Personne. (Lahousse, 2006: 449)[60]
will appear before the disciplinary committee the following pupils: Pierre Dupond, Marie Dubois and Paul Personne

c. Dans la forêt habite une famille pauvre.
in the forest lives a poor family

d. Il s'est passé un truc bizarre.
there occurred something strange

Given that the focus of the present thesis is on locative inversion and expletive-associate inversion, these are the only types of SVI which will be analysed in detail in the present chapter. The chapter proceeds as follows: section 5.2 describes the properties of French locative inversion. In section 5.3, the properties of French expletive-associate inversion are presented. Finally, the conclusions of the chapter are summarised in section 5.4.

5.2. Locative inversion

French locative inversion serves the same discourse function as its English counterpart: to present a non-presupposed referent on a presupposed scene. For this reason, in French, as in English, locative inversion is only felicitous when the pre-verbal

[60] That the post-verbal subject in (3b) is assigned identificational focus is proved by the entailment test in (i) and the lie test in (ii), which are taken from Lahousse (2006: 449-450).

(i) a. Passeront devant le conseil de discipline les élèves suivants: Pierre Dupond, Marie Dubois et Paul Personne.
will appear before the disciplinary committee the following pupils: Pierre Dupond, Marie Dubois and Paul Personne
b. =/=> Passera devant le conseil de discipline l'élève suivant: Pierre Dupond.
will appear before the disciplinary committee the following pupil: Pierre Dupond

(ii) a. Passeront devant le conseil de discipline les élèves suivants: Pierre Dupond, Marie Dubois et Paul Personne.
will appear before the disciplinary committee the following pupils: Pierre Dupond, Marie Dubois and Paul Personne
b. - Ce n'est pas vrai! Jean Prévost passera aussi devant le conseil de discipline.
that is not true! Jean Prevóst too will appear before the disciplinary committee

XP is a stage topic[61] (Lahousse, 2003, 2011), and the post-verbal subject receives either narrow or wide information focus (Bonami, Godard, & Marandin, 1998; Cornish, 2001, 2005; Lahousse, 2011), as illustrated in (4).

(4) a. ***Pre-verbal PP stage topic + narrow subject focus***

Quels animaux apparaissent en septembre? <u>En septembre apparaissent les grosses araignées.</u> (Lahousse, 2014: 2466)

which animals appear in September? in September appear the big spiders

b. ***Pre-verbal PP stage topic + wide focus on the subject and verb***

Qu'est-ce qui se passe en septembre? <u>En septembre apparaissent les grosses araignées.</u> (Lahousse, 2011: 224)

what happens in September? in September appear the big spiders

c. ***Pre-verbal PP focus + subject topic***

Que sais-tu à propos des grosses araignées? <u>#En septembre apparaissent les grosses araignées.</u> (Lahousse, 2011: 225)

what do you know about big spiders? in September appear the big spiders

d. ***Pre-verbal PP stage topic + subject topic***

Qu'est-ce que fait l'ex-président brésilien dans le bidonville? <u>#Dans le bidonville habite l'ex-président brésilien.</u>

what is the former Brazilian president doing in a slum? in the slum lives the former Brazilian president

---

[61] Note that, like English, French allows locative inversion at the beginning of narrative texts, where apparently pre-verbal XPs cannot have a presupposed, topic status.

(i) Il y a très longtemps, dans un très lointain pays, l'Arabie, vivaient deux frères, Ali Baba et Kassim.
A long time-ago, in a distant country, Arabia, lived two brothers: Ali Baba and Kassim
(http://www.antoineonline.com/Livre_Ali_Baba_Et_Les_Quarante_Voleurs_de_MarcelinoTroung_9782840062271.aspx?productCode=0009782840062271)

However, this type of (apparently) all-new locative inversion occurs mostly in literary texts (cf. example 4e). Following Birner and Ward (1998), I advocate that this is because the hearer/reader expects stories to have spatio-temporal settings. As proposed by Birner and Ward (1998: 176), "in the context of the beginning of a story, the notion of a setting may be assumed to be situationally evoked (Prince 1981)", i.e., salient in the situational context of the discourse. Significantly, in non-literary contexts, the preposed constituents which convey situationally evoked information also admit locative inversion.

(ii) Jean, sur cette table se trouve un stylo bleu; est-ce que tu pourrais me l'apporter, s'il te plaît?
John, on that table is a blue pen; could you bring it to me, please

In line with Prince (1981), I assume that situationally evoked information constitutes given, rather than new information. I further assume that situationally evoked XPs, such as those in (i) and (ii), have a presupposed status, corresponding to propositions which "the speaker assumes the hearer already knows or is ready to take for granted at the time the sentence is uttered" (Lambrecht, 1994: 52). They can, therefore, be classified as stage topics.

e. ***Locative focus + subject focus***

Jean, as-tu lu ça? #Dans un bidonville habite un ex-président brésilien.

Jean, have you read this? in a slum lives a former Brazilian president

In French, as in English, being a stage topic is both a necessary and sufficient condition for a pre-verbal XP to license locative inversion. This claim is supported by two pieces of evidence. First, even though all pre-verbal XPs are required to have a presupposed, topic status to license locative inversion in French (cf. examples in (4)), not all presupposed XPs are compatible with this type of SVI, as shown in (5). The only pre-verbal XPs that are admitted in French locative inversion are the ones which define a spatio-temporal location, just as stage topics do. These include locative PPs and AdvPs (6a-b), temporal PPs and AdvPs (6c-d) and participial phrases with a locative PP (6e) (cf. Lahousse, 2003, 2011).

(5) a. Qui est arrivé par le train? *Par le train est arrivé Jean.

who arrived by train? by train arrived Jean

b. Qui est venu volontairement? *Volontairement est venu Jean.

who came voluntarily? voluntarily came Jean

c. Qu'est-ce qui s'est passé temporairement ? *Temporairement se sont produites quelques hallucinations.

what happened temporarily? temporarily occurred hallucinations

(6) a. **Devant eux** se trouvaient plus de cent journalistes venus des quatre coins du monde.

in-front-of them were over a hundred journalists from the four corners of the world

b. **Ici** a vécu Gandhi.

here lived Gandhi

c. **À 17 heures** est arrivée la vedette de cette année: Jean-Luc Lahaye. (http://www.lavoixdunord.fr /region/ecaillon-soleil-chaleur-et-foule-a- la-18e-fetede-la-fraise-ia16b12101n2149597)

at 17 o'clock arrived the star of this year: Jean-Luc Lahaye

d. **Après** est arrivé ce qu'il appelait le moment maniériste […].(http://sedition-revue.fr /la-place-de-la-critique-entretien-avec-jean-baptistethoret/)

afterwards arrived what he called the mannerist moment

e. **Assis sur la banquette arrière** se trouvait un mineur, détenant un passeport qui appartenait au fils aîné du couple. (http://www.lavoixdunord.fr /region/coquelles-des-migrants-arretes-deux-fois-enquelques ia33b48583n2576842)
sat on the backseat was a minor holding a passport which belonged to-the eldest son of-the couple

Second, any stage topic can trigger locative inversion in French, regardless of two factors often deemed decisive in the literature (e.g., Cornish, 2001, 2005): (i) the adjunct or argument status of the preposed constituent, and (ii) its discourse-old or new status. In fact, as shown in (7) and (8), French admits locative inversion with both locative arguments and adjuncts and does not require them to convey discourse-old information. They may be discourse-new, as in (8b).

(7) a. ***Locative argument***
Dans cette région du monde sont apparus les premiers hommes.
in-this region of-the world appeared the first men
b. ***Locative adjunct***
Dans l'aquarium nagent des poissons multicolores.
in the aquarium swim multicoloured fish

(8) a. ***Discourse-old pre-verbal constituent + discourse-old post-verbal constituent:*** Et lorsque le journaliste demande à Lewis Hamilton si cette personne est Nicole Scherzinger, le pilote répond d'un simple "oui" […]. Car il y a quelques années, Lewis Hamilton s'imposait en Hongrie. <u>À ses côtés se trouvait Nicole Scherzinger.</u> (http://www.purepeople.com/article/lewis-hamilton-une-victoire-en-hongriedediee-a-son-ex-nicole-scherzinger_a125428/1)
and when a journalist asks to Lewis Hamilton whether that person is Nicole Scherzinger, the pilot answers with a simple 'yes'. […] because some years ago, Lewis Hamilton won in Hungary. next to him was Nicole Scherzinger.
b. ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent:*** J'ai pris le déjeuner à Marshall Field's hier, et tu ne peux pas imaginer qui était là. <u>Derrière une forêt de microphones se trouvait Hillary Clinton.</u>
I had lunch at Marshall Field's yesterday, and you wouldn't believe who was there. behind a cluster of microphones was Hillary Clinton.

Crucially, note that (8b) is felicitous in French because the preceding context, namely the sequence "you won't believe *who* was there", makes it clear that what is being asserted by the locative inversion structure is the presence of Hillary Clinton, and not where she was. In other words, the locative PP is here taken for granted. If the whole sentence was focused, as in (9), locative inversion would be infelicitous. These examples, therefore, indicate that pre-verbal XPs have to be presupposed, but not necessarily discourse-old, to be compatible with locative inversion, which is consistent with the hypothesis that the felicity of pre-verbal XPs in French locative inversion is exclusively determined by their [± stage topic] status.

(9) Pourquoi est-ce que tu es étonné? #Derrière une forêt de microphones se trouvait Hillary Clinton.
why are you surprised? behind a cluster of microphones was Hillary Clinton

As is the case with pre-verbal XPs, in French locative inversion, post-verbal constituents are only subject to a discourse condition: they must be part of the focus. As long as this condition is satisfied, all types of subjects are allowed, including indefinite and definite ones (10).

(10) Sur la scène est apparu un homme / le Président.
on the stage appeared a man / the president

French and English behave in a similar fashion not only with respect to the pre- and post-verbal constituents of locative inversion, but also with respect to the distribution of the verb. In French, as in English, the verbs which are typically allowed to undergo (light) locative inversion are the following: (i) transitive verbs in the passive voice like (11a); (ii) unaccusative verbs of existence and appearance like (12a-b); and (iii) the unergative verbs which express a prototypical activity of the subject referent, as in (13a-b).[62] Unlike English, French also admits (light) locative inversion with the unergative verbs which are not redundant in relation to the subject when the activity they express prototypically takes place in the location to which the locative XP refers, as in (13c-d). As shown in (11b), (12c-d) and (13e-f), the transitive verbs which are in the active voice, the unaccusative verbs which denote a change of state, like *s'écrouler* 'to collapse' and *se briser* 'to break', and the unergatives which are neither redundant in

[62] Recall that, when the content of the unergative verb is redundant in relation to the subject, the agent argument is reinterpreted as a theme-like argument, thus converting the verb into an unaccusative verb which expresses the existence of the theme entity. For further details, see chapter 4, section 4.2.2.

relation to the subject nor prototypically related to the location denoted by the pre-verbal XP are generally incompatible with locative inversion in French (at least when the subject is structurally light).

(11) ***Transitive verbs***

a. Sur la porte était gravée une inscription mystérieuse.

on the door was engraved a mysterious inscription

b. *Sur la porte a gravée une inscription mystérieuse Jean.

on the door engraved a mysterious inscription Jean

(12) ***Unaccusative verbs***

a. De l'ouest arrivèrent les ancêtres des Inuit. (http://www.museedelhistoire.ca/cmc/exhibitions/tresors/ethno/etb0110f.shtml)

from the west arrived the ancestors of-the Inuit

b. Sur la place se dressait une cathédrale. (Marandin, 2003: 377)

in the square stood a cathedral

c. ?? Sur la place s'écroulait une cathédrale.[63] (Maradin, 2003: 377)

in the square collapsed a cathedral

d. ??Dans la cuisine s'est brisé un verre.

in the kitchen broke a glass

(13) ***Unergative verbs***

a. Sur une route au loin aboie un chien errant. (Muchart, H. (2016). *Les balcons sur la mer: Poèmes*. Paris: Collection XIX.)

on the road in-the distance barks a stray dog

b. À son cou brille un diamant noir. (http://www.lesoir.be/archive/recup%3A%252F373566%252Farticle%252Fstyles%252Fair-du-temps%252F2013-12-04%252Fjeune-homme-et-mode)

on her neck glitters a black diamond

c. Dans ce restaurant mangent des gens célèbres.[64] (Spector, 2003: 318)

in this restaurant eat famous people

d. Dans cette usine travaillent plus de 450 personnes. (http://bipt.univ-tlse2.fr/VOIR/cazals_chine/shanghai.html)

[63] I will defend below that sentences like (12c) are unacceptable in French due to a discourse factor: the verb is not compatible with the presentational function of locative inversion. Although the factor underlying the unacceptability of (12c) is of a discourse nature, I mark it with '??' instead of '#', because this sentence would not be acceptable in any discourse context. The symbol '??' is used in all the cases that are similar to this one.

[64] In (13c) and (13d), there is a redundancy effect in the verb-locative relation in that the restaurant is a place where people eat and the factory is a place where people work.

in this factory work more than 450 people

e. ??À côté de notre table a vomi un garçon.

near our table vomited a boy

f. ??Dans cette usine mangent plus de 450 personnes.

in this factory eat more than 450 people

To the best of my knowledge, no study has ever examined whether French has a heavy locative inversion construction akin to that found in English. For this reason, it is unclear whether this language admits locative inversion with more verbs than those listed above when the post-verbal subject is structurally heavy. Since the present work focuses on the acquisition of light locative inversion in L2 English, I will not attempt to address this question here. The present analysis will exclusively concentrate on the locative inversion structures which are compatible with light subjects.

Even though, by and large, French and English behave alike regarding the distribution of the verb in light locative inversion, this distribution cannot be explained in the same way in both languages. As explained in chapter 4, when the subject is light, the order *locative+VS* can only be obtained in English with verbs whose sole argument is generated in a position to the right of the verb, i.e., unaccusative(-like) verbs, because the verb and the light subject remain *in situ*. This means that the order VS will only be possible at surface structure if these constituents are ordered in this way at deep structure. Such explanation cannot be extended to French, because, unlike English, this language has V-to-I movement, even in locative inversion structures. The only constituent that stays *in situ* in French locative inversion is the subject. These claims are supported by two pieces of evidence:

i. *the behaviour of floating quantifiers*. As shown in (14), a floating quantifier like *tous* 'all' cannot appear between the auxiliary and the past participle in French locative inversion. Under Doejtes's (1992) analysis of floating quantifiers, the ungrammaticality of a sentence like (14b) indicates the this sentence contains no trace to be bound by the quantifier, which, in turn, suggests that, in French, as in English, the subject of locative inversions does not leave its base position (cf. Lahousse, 2006, 2011).

(14) a. Alors sont arrivés tous les enfants.

then are arrived all the children

b. *Alors sont tous arrivés les enfants.

then are all arrived the children (Lahousse, 2006: 445)

ii. *the patterns of adverb placement*. Since the seminal work of Emonds (1976) and Pollock (1989), the occurrence of the verb to the left of an adverb like *souvent* 'often', which is assumed to be in an adjoined position outside the VP, is taken to be evidence that the verb moved from V to the inflectional domain. Conversely, the order adverb-verb is taken to result from the lack of movement of the verb from its base-generated position. The patterns of adverb placement in (15) and (16), therefore, confirm that French has V-to-I movement both in SVO structures and in locative inversion structures, while English does not.

(15) a. Jean lit souvent ce livre. / *John reads often this book.
b. *Jean souvent lit ce livre. / John often reads this book.

(16) Dans le garage apparaissent souvent quelques souris. / *In the garage appear often some mice.

Since the verb undergoes V-to-I movement in French locative inversion − and assuming with Chomsky (2000, 2001) that subjects can be Case-licensed under Agree −, it seems that, from a strictly syntactic point of view, nothing precludes the argument of true unergative verbs from surfacing to the right of the verb in this type of construction, even when this argument is light. What prevents this from happening must then be something external to syntax. In the present thesis, I assume with Cornish (2005) and Lahousse (2011) that the distribution of verbs in French locative inversion is determined by discourse conditions, which flow from the presentational function of this type of SVI. These conditions are the same that apply to English: the verb must be relatively unnoteworthy in relation to the subject and compatible with a presentational/existential interpretation.

On the basis of these conditions, the distribution of the verb in French locative inversion can be explained as follows. Unaccusative verbs of existence and appearance are the most frequent verbs in French locative inversion because they add little or no information beyond the existence/appearance of the subject on the scene and can, consequently, accommodate the presentational function of this type of SVI. The unergatives which express a characteristic activity of the subject and those which denote an activity that prototypically takes place in the location described by the pre-verbal XP are also compatible with this function. This is because the close semantic relation between the verb, on the one hand, and the subject and/or the locative, on the other,

makes the semantic content of these unergative verbs redundant, which enables them to simply assert the existence of the subject on the scene described by the locative XP. That these verbs are reduced to a presentational/existential meaning is confirmed by the fact that, when one replaces them by the existential expression *il y a* 'there is/are', as in (17), the core meaning of the sentence remains the same.

(17) a. Sur une route au loin il y a un chien errant.
on the road in-the distance there is a stray dog
b. Dans cette usine il y a plus de 450 personnes (travailleurs).
in this factory there are more than 450 people (workers)

Unlike these verbs, the unergative verbs which are not redundant and the unaccusative verbs which denote a change of state are generally incompatible with the presentational function of French locative inversion. In the case of change-of-state verbs, this incompatibility is explained by the fact that what collapses or breaks ceases to exist and, as a result, is no longer presentable on the scene (12c-d). In the case of the non-redundant unergatives, the incompatibility with the presentational function of locative inversion results from the fact that these verbs introduce unpredictable information which goes beyond the mere assertion of the existence/appearance of the subject referent (13e-f).

As is the case with non-redundant unergatives, active transitive verbs are rejected in locative inversion (11b) because these verbs and their objects invariably contribute additional information beyond the existence/appearance of the subject. The same does not happen when the external argument of a transitive verb is suppressed in the passive voice. In this case, the verb can be reduced to a presentational meaning and, as a consequence, the whole sentence can receive a presentational reading. Crucially, when the passivised transitive verb is incompatible with a presentational reading, it is rejected in French locative inversion. This is illustrated in (18). Here the transitive verb *hacher* ('to chop') is not allowed to undergo SVI, despite being in the passive, because it asserts that the subject (in this case, "the meat") was chopped into pieces and, consequently, cannot accommodate the presentation of the subject on the scene. In other words, this verb is incompatible with the presentational function of locative inversion.

(18) ??Dans la cuisine a été hachée la viande.
in the kitchen was chopped the meat

As the discourse constraints which apply to the verb in French locative inversion are the same that govern English light locative inversion, the differences between these constructions regarding V-to-I movement do not result in significant differences at surface level. French and English only differ with respect to the acceptability of the unergative verbs that are redundant in relation to the locative XP. While French allows them to undergo locative inversion, English does not. This is shown in (19):

(19) a. Dans ce bureau travaillent quatre personnes. (Cornish, 2005: 170)
b. ??In this office work four people. (Cornish, 2005: 169)

Following Jones (1996), I assume that when there is an effect of redundancy between the unergative and the locative in French SVI constructions like expletive-associate inversion and locative inversion, the agent argument may be reinterpreted as a theme-like argument, thus converting the verb into an unaccusative-like verb which expresses the existence of the theme entity.[65] The proposal just made raises two intriguing questions: (i) Why is it that the unergatives that are redundant in relation to the locative can function as unaccusatives in French, but not in English? (ii) Why is it that, in English, the unergative verbs which are redundant in relation to the subject can function like unaccusatives (cf. chapter 4, section 4.2.2), but those which are redundant in relation to the locative cannot?

If one assumes with Sorace (2000, 2004, 2011b) that intransitive verbs are organised in a split intransitivity hierarchy according to their [±telic] and [±agentive] properties and that the cut-off point for unaccusativity varies across languages (cf. chapter 4, fn 45), these questions may be answered as follows: possibly, the verbs which are redundant in relation to the subject and those which are redundant in relation to the locative are hierarchised and the former may be closer to the unaccusative end than the latter. This is because the verbs which are redundant in relation to the subject are arguably less agentive than those which are redundant in relation to the locative. In fact, a fish that swims is a less agentive argument than a boy that swims in the pool. Swimming is what fish prototypically do. So they have a low degree of volition and control over such action. The same cannot be said about a boy swimming in the pool. Assuming that a hierarchy of the type outlined in fig. 5.1 does exist, it may be

[65] Jones (1996) makes this proposal for expletive-associate inversion. However, given that expletive-associate inversion and locative inversion are closely related SVI structures, it makes sense to extend this proposal to locative inversion.

hypothesised that the difference between English and French illustrated in (19) results from the fact that the location of the cut-off point for unaccusativity is higher in English than in French. The location of the cut-off point in the hierarchy would also explain why it is that, in English, the unergative verbs which are redundant in relation to the subject function like unaccusatives, but those which are redundant in relation to the locative do not.

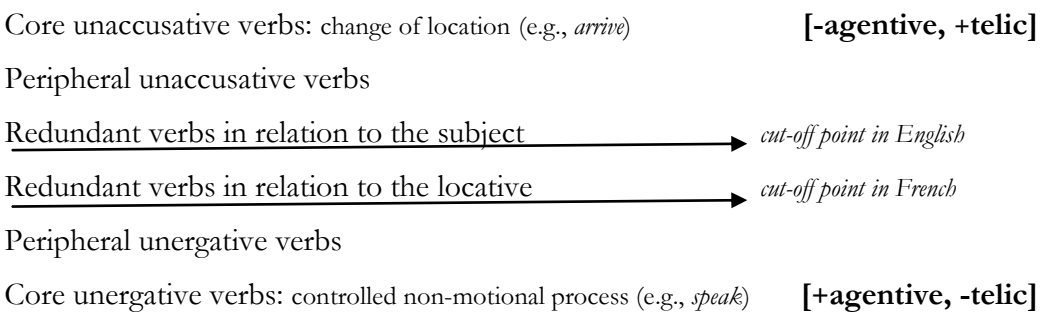

Fig. 5.1. *Simplified split intransitivity hierarchy*[66]

In addition to the difference just described, there is another significant difference between French and English regarding locative inversion: the former language, but not the latter, allows SVI with covert locative arguments (20).[67] This type of covert locative inversion is, however, quite uncommon in French. It occurs mostly in narrative texts[68] (e.g., Gournay, 2006; Le Bidois, 1952) and is just admitted with a restricted group of intransitive verbs which cut across the unaccusative/unergative distinction, roughly corresponding to the group of "inversion verbs" that allow "free" inversion in sentence focus contexts in languages like EP. This group includes unaccusatives verbs like *venir* 'to come' and *arriver* 'to arrive' (21), and unergative verbs like *sonner* 'to ring' (22).

(20) a. Une porte s'ouvre doucement et apparaît un homme d'une soixantaine d'années.

b. *The door slowly opens and appears a man in his sixties.

(21) ***Unaccusative verb***

a. Tout le monde s'assoit… Arrive le chef d'orchestre, Eliahu Inbal, un Israélien… (Lahousse, 2007: 14)

[66] This hierarchy is partially based on the Split Intransitivity Hierarchy proposed by Sorace (2011).

[67] This type of SVI is traditionally called "absolute inversion" in the literature (e.g., Gournay, 2006; Le Bidois, 1952).

[68] Possibly, this type of locative inversion only occurs in narrative sequences because the hearer/reader expects them to present a succession of events in a linear chronological order. Consequently, the notion of chronological order may be assumed to be situationally evoked (Prince, 1981) here, which makes the insertion of an adverb like *ensuite* 'afterwards' redundant.

everyone sits down arrives the conductor, Eliahu Inbal, an Israeli

b. Tout le monde s'assoit… * Se brisent les chaises.
everyone sits down break the chairs

(22) ***Unergative verb***

a. Tout le monde s'assoit… Sonnent les cloches.
everyone sits down ring the bells

b. Tout le monde s'assoit… *Crient les enfants.
everyone sits down scream the children

As shown in (23), French only allows covert locative inversion in the discourse contexts where the spatio-temporal location of the post-verbal subject is recoverable from the preceding context. Put differently, this type of SVI is just admitted with covert anaphoric stage topics. As Lahousse (2003, 2007, 2011) points out, these topics always get a temporal reading, and tend to be interpreted as meaning "then, afterwards".

(23) a. Elle sonne. Arrive une infirmière: "Ah! Mais madame, ce n'est pas l'heure". (Lahousse, 2007: 13)
she rings arrives a nurse: "Oh! But Madam it's not time yet"

b. [Context: opening sentence of a text] *Arrive une infirmière.
arrives a nurse

c. Qu'est-ce qui s'est passé? *Est arrivée une infirmière.
what happened arrived a nurse

The grammaticality of SVI structures like (24a) in French raises an important question: how can French admit SVI without an overt element in pre-verbal position if this language has a positive setting for the PF-interpretability micro-parameter (cf. chapter 3, section 3.3) and, consequently, requires the EPP to be satisfied by phonetically realised material? I tentatively argue that covert locative inversion is acceptable in a narrative style because the requirements made by the EPP in the core grammar of French (i.e., the grammar that governs unmarked registers and styles) are relaxed in the peripheral grammar which governs this special, marked style.[69]

Unlike its covert counterpart, overt locative inversion complies with the rules of the core grammar of French, as it satisfies the EPP via the fronting of an overt locative

[69] Note that it is well attested in the literature that certain constraints of non-null subject grammars can be relaxed in special registers (cf. Haegeman, 1990, 2013; Haegeman & Guéron, 1999).

XP.[70] Given that this locative inversion is part of the core grammar of French, it is more frequent than its covert counterpart. Overt locative inversion occurs not only in literary registers, but also in less marked written and spoken registers (Blanche-Benveniste, 1997).

In summary, French has two types of locative inversion: (i) overt locative inversion, which involves the fronting of an overt spatio-temporal XP, and (ii) covert locative inversion, which occurs with a covert anaphoric stage topic. While the latter type does not exist in English, the former does. By and large, French overt locative inversion behaves like its English counterpart. Its constituents are subject to the following conditions:

(24) ***Conditions on French overt light locative inversion***

a. *Pre-verbal constituent*: must be an overt stage topic.

b. *Post-verbal subject*: must be (part of) the focus of the sentence.

c. *Verb:* must be relatively unnoteworthy in relation to the subject and compatible with a presentational/existential function, in order to allow locative inversion to fulfil the following discourse function: to present a non-presupposed referent on the scene set by the stage topic. (These conditions are satisfied by the following unaccusative-like verbs: unaccusatives of existence and appearance, passivised transitive verbs and redundant unergatives).

As the discourse constraints that apply to the verb in French overt locative inversion are the same that apply in English locative inversion, the differences between these constructions regarding V-to-I movement do not result in significant differences at surface level. These constructions accept essentially the same types of verbs.

5.3. Expletive-associate inversion

The core grammar of French allows SVI in simple sentences and matrix clauses not only when the EPP is satisfied by an overt locative XP, but also when the expletive subject *il* 'there/it'[71] is merged in the canonical subject position. In French, expletive-

[70] Here the EPP is satisfied by the overt locative XP possibly in the same way as in English (cf. section 4.2.3).

[71] Unlike English, French just has one expletive subject – *il*. It is used in the contexts where we find *it* in English, as well as in the contexts where we find *there*.

associate inversion constructions assume two forms: (i) *Il y a* S, which roughly corresponds to *there*-existential sentences in English (26a), and (ii) *Il* VS, which is the French counterpart of English *there*-presentational sentences (26b).

(25) a. Il y a un livre sur la table.
EXPL is a book on the table
b. Il est arrivé un navire de Liverpool.
EXPL arrived a ship from Liverpool

Like English *there*-constructions, French expletive-associate inversion encodes theticity (Sasse, 1987; Zubizarreta & Nava, 2011) and serves the discourse function of presenting a non-presupposed referent (on a scene). Its theticity is confirmed by the question-answer tests in (26), which show that, in this type of SVI, all constituents must have the same informational status: they must be interpreted as focus (cf. Belletti & Bianchi, 2016: fn45).

(26) a. ***Narrow subject focus***
A: Qui est arrivé? B: #Il est arrivé trois gendarmes (au restaurant).
who arrived? EXPL arrived three policemen at the restaurant
b. ***Presupposed subject + verb (and locative) interpreted as focus***
A: Que sais-tu à propos de trois gendarmes? B: #Il est arrivé trois gendarmes (au restaurant).
what do you know about three policemen? EXPL arrived three policemen at the restaurant
c. ***Presupposed subject and verb + locative interpreted as focus***
A: Où est-ce que trois gendarmes sont arrivés? B: #Il est arrivé trois gendarmes au restaurant.
where did three policemen arrive? EXPL arrived three policemen at the restaurant
d. ***All focus***
A: Que s'est-il passé? B: Il est arrivé trois gendarmes (au restaurant).
what happened? EXPL has arrived three policemen at the restaurant

Though necessary, the assignment of sentence focus is not a sufficient condition for expletive-associate inversion to be licensed in French. This type of SVI is subject to the following additional restrictions (Belletti & Bianchi, 2016; Jones, 1996; Legendre,

1994; Riegel et al., 1994; Sheehan, 2007; among others): (i) the post-verbal subject must be indefinite (27); (ii) the verb must agree with the expletive subject (28); and (iii) the verb must be intransitive and compatible with the presentational function of expletive-associate inversion.

(27) Il est arrivé une fille /*la fille.
EXPL arrived a girl / the girl

(28) a. Il est arrivé trois filles.
EXPL arrived.3SG three girls
b. *Il sont arrivées trois filles.
EXPL arrived.3PL three girls

Due to restriction (iii), the verbs which occur most readily in French expletive-associate inversion belong to the class of unaccusative verbs of existence and appearance, which includes such verbs as *arriver* 'to arrive' and *apparaître* 'to appear' (cf. examples (26b), (29a) and (29)). In addition to these verbs, French also allows expletive-associate inversion with passive transitive verbs (30) and, to a lesser extent, with some unergative verbs. The latter verbs are only acceptable when they are contextually reduced to a presentational/existential meaning. This happens in two contexts (cf. Carlier, 2005; Jones, 1996): (i) when the verb expresses a prototypical activity of the subject referent, as in (31), and (ii) when the verb expresses an activity that typically takes place in the location to which the PP refers, as in (32).[72] In such contexts, the semantic content of the unergative verb becomes redundant, which enables it to simply assert the existence of the subject in the place to which the PP refers. Crucially, if the subject referent does not prototypically execute the activity expressed by the verb and the PP denotes a location which is not characteristically related to the verb, as in (33), the unergative verb cannot receive a purely existential interpretation. As a result, it cannot undergo expletive-associate inversion (Jones, 1996).

(29) Il est apparu une fissure sur le mur.
EXPL appeared a crack on the wall

(30) a. *Dans les archives de Pierre Molinier il a trouvé beaucoup de photographies Marie.

[72] Some of the native speakers of French that I consulted reject expletive-associate inversion with unergative verbs, even in these contexts.

in Pierre Molinier's archives EXPL found many photographs Marie

b. Dans les archives de Pierre Molinier il a été trouvé beaucoup de photographies.

in Pierre Molinier's archives EXPL were found many photographs

(31) Il aboie un chien au loin. (Carlier, 2005: 21)

EXPL barks a dog from afar

(32) a. Il nage des enfants dans la piscine.[73] (Carlier, 2005: 21)

EXPL swim children in the pool

b. Il mange beaucoup de journalistes dans ce restaurant. (Jones, 1996: 125)

EXPL eat many journalists in this restaurant

(33) a. ??Il mange des enfants dans la piscine. (Carlier, 2005: 21)

EXPL eat children in the pool

b. ??Il a vomi un garçon à côté de notre table.

EXPL vomited a boy next to our table

It is important to note that not all authors agree that unergative verbs are subject to the restrictions described above. Legendre (1990, 1994), for example, claims that the expletive-associate inversion structures in (34), where the verb is neither redundant in relation to the subject nor in relation to the locative, are acceptable in French. These structures were, however, rejected by all the native speakers of French I consulted (*n*=10). This fact suggests that there may be variation within French with respect to the types of verbs allowed in expletive-associate inversion. Given that the speakers I consulted took part in the experimental tasks which will be reported in the second part of this thesis, I will assume that, at least, in the mental grammars of the French native speakers who participated in the experiments I conducted on L2 acquisition, non-redundant unergative verbs are completely incompatible with expletive-associate inversion.

(34) a. (??) Il a écrit beaucoup d'enfants au Père Noël. (Legendre, 1994: 123)

EXPL wrote many children to Father Christmas

b. (??) Il a éternué beaucoup d'enfants pendant le concert. (Legendre, 1994: 123)

EXPL sneezed many children during the concert

[73] In (32), there is a redundancy effect in the verb-locative relation in that the restaurant is a place where people eat and the swimming pool is a place where people swim.

There is also divergence between these speakers' intuitions and some theoretical studies on French expletive-associate inversion regarding the acceptability of change-of-state verbs. In some studies, most notably Labelle (1992) and Legendre, Smolensky, and Culbertson (2016), it is claimed that pronominal change-of-state verbs (e.g., *se casser* 'break', *se briser* 'break') can undergo expletive-associate inversion in French, whereas non-pronominal change-of-state verbs (e.g., *casser* 'break' and *fondre* 'melt') cannot. Nevertheless, this claim is not borne out by the grammaticality judgements of the ten native speakers of French I consulted.[74] Despite recognising that, in a minimal pair of sentences like (35), a sentence like (36b) is slightly worse than (36a), these speakers considered expletive-associate inversion unacceptable not only with non-pronominal change-of-state verbs, but also with pronominal change-of-state verbs. For this reason, in the present thesis, I assume, contra Labelle (1992) and Legendre et al. (2016), that all change-of-state verbs, including pronominal ones, tend to be rejected in French expletive-associate inversion. Presumably, this is because what breaks, evaporates or dissolves ceases to exist (at least in its normal form) and, consequently, is no longer presentable on the scene. Hence, a sentence with this type of verb cannot serve a presentational function.

(35) a. ??Il s'est cassé plusieurs branches.[75]
EXPL REFL broke several branches
b. *Il a cassé plusieurs branches.
EXPL broke several branches

From what has been described above, it can be concluded that French behaves much in the same way as English regarding the distribution of the verb in light expletive-associate inversion. As no study has ever examined whether French has a heavy expletive-associate inversion construction similar to that found in English, it is unclear whether this language admits this type of SVI with more verbs than those listed above when the post-verbal subject is structurally heavy. This question will not be addressed in the present thesis, since its main focus is on the acquisition of light expletive-associate inversion. What is important to highlight here is that there is only

[74] Their judgements were collected by means of a mini grammaticality judgement test which included sentences taken from various papers on French expletive-associate inversion. Unaccusative verbs of existence and appearance were clearly accepted by the native speakers I consulted (median= 4 on a scale of 1 to 5), while unaccusatives of change of state were not (median= 2 for pronominal change-of-state verbs and median= 1for non-pronominal change-of-state verbs).

[75] These examples were taken from Legendre et al (2016). In this paper, the authors marked sentence (36b) as ungrammatical and (36a) as grammatical.

one difference between French and English regarding the distribution of the verb in light expletive-associate inversion: the former language, but crucially not the latter, allows this type of SVI with the unergatives which do not express a characteristic activity of the subject whenever there is an effect of redundancy in the verb-locative relation. This difference is illustrated in (36).

(36) a. Il mange beaucoup de journalistes dans ce restaurant.
b. *There eat many journalists in this restaurant.

The unacceptability of (36b) in English results from a combination of two facts: (i) the fact that, in this language, light expletive-associate inversion is an unaccusativity diagnostic (cf. chapter 4, section 4.3), and (ii) the fact that, unlike the unergative verbs which are redundant in relation to the subject, those which are redundant in relation to the locative do not become unaccusative-like in English. The reason for the acceptability of (36a) in French is less clear. In principle, there are two possible explanations for this fact: either light expletive-associate inversion is not an unaccusativity diagnostic in French or this language allows unergative verbs to function like unaccusative verbs in the presence of a redundancy effect in the verb-locative relation.

Assuming with Chomsky (1981) and Costa (2004) that subject-verb agreement is a diagnostic for nominative Case-marking, and with Belletti (1988) that the post-verbal subjects of unaccusative verbs, but crucially not those of other verb classes, can be assigned a Case other than the nominative, the fact that, in French expletive-associate inversion, the verb agrees with the expletive *il* rather than with the post-verbal subject (cf. example (28)) may be viewed as an independent piece of evidence against the hypothesis that this type of SVI is not an unaccusativity diagnostic. The agreement between the verb and *il* indicates that it is the expletive and not the logical subject that receives nominative Case. Consequently, for the logical subject of an expletive-associate inversion to be Case-licensed *in situ*, it must be assigned a different type of Case. As proposed by Belletti (1988), in this context, the Case which is assigned to post-verbal subjects is the partitive Case.[76] Since the arguments of unaccusative(-like)

[76] Belletti (1988) and Belletti and Bianchi (2016) argue that partitive Case is an inherent-type Case which is only compatible with indefinite subjects. According to them, it is due to this fact that expletive-associate inversion is subject to definiteness effects. This syntactic account of definiteness effects, however, is far from consensual. Since the 1990s, various authors have shown that the subjects of expletive-associate inversions behave in a less homogenous way than initially described in syntactic

verbs are the only ones which can receive partitive Case *in situ*, it seems that there would be no way of Case-licensing the arguments of unergative verbs *in situ* in French expletive-associate inversion. For this reason, I tentatively assume that, in French, as in English, light expletive-associate inversion is an unaccusativity diagnostic.

In line with the proposals made in chapter 4 about redundant unergatives, and following Jones (1996), I assume that the unergatives which are redundant in relation to the locative and/or the subject admit expletive-associate inversion, because, when there is an effect of redundancy in the verb-locative relation and/or in the verb-subject relation, the agent argument is reinterpreted as a theme-like argument in French, thus converting the verb into an unaccusative-like verb which expresses the existence of the theme entity. Empirical support for the view that the unergatives which occur in expletive-associate inversion are unaccusative-like comes from the fact that their acceptability is greatly reduced when they co-occur with manner adverbs which induce an agentive interpretation of the verb and block a purely existential reading.

(37) a. Il1 nageait beaucoup de gens dans la piscine. (Jones, 1996: 125)
EXPL swam many people in the pool
b. ??Il1 nageait *très prudemment* beaucoup de gens dans la piscine.
EXPL swam very cautiously many people in the pool
c. ??Il1 nageait *très bien* beaucoup de gens dans la piscine. (Jones, 1996: 126)
EXPL swam very well many people in the pool

As explained in detail section 5.2, possibly, the unergatives that are redundant in relation to the locative do not become unaccusative-like in English because this language might have a stricter cut-off point for unacusativity than French.

French and English differ not only in this respect, but also with regard to the position occupied by lexical verbs in the underlying syntactic structure. Unlike English, French has V-to-I movement, even in expletive-associate inversion structures. In French, the only constituent that stays *in situ* in this type of SVI is the subject. This is

studies and that only semantic-pragmatic accounts can explain all the data in a unified way (e.g., Abbott, 1993; Leonetti, 2016; Ward & Birner, 1995; Ward et al., 2002; among others). For this reason, despite assuming the existence of an inherent-type Case associated with the internal argument position, in this thesis, I do not adopt Belletti's (1988 and subsequent work) view that there is a connection between this Case and the definiteness effect that tends to exist in expletive-associate inversions. Rather, I assume with Leonetti (2016: 109) that "the [definiteness effect] is not a syntactic constraint: it is a condition on interpretations, and should be explained in semantic/pragmatic terms." In this thesis, I do not discuss exactly how definiteness effects are best accounted for because this is not relevant to our purposes.

proved by the patterns of adverb placement in (38). As the adverb *souvent* 'often' is in an adjoined position outside the VP, the occurrence of the verb to the left of this adverb indicates that it has moved from V to the inflectional domain. On the other hand, the occurrence of the subject to the right of *souvent* can be taken as evidence that this constituent remains *in situ* in the VP.

(38) a. À Noël il se passe souvent quelques miracles
(http://www.varmatin.com/vie-locale/la-belle-histoire-de-cette-varoise-venue-au-secours-de-florian-18-ans-vivant-dans-la-rue-104400)
at Christmas-time EXPL occur often some miracles

b. * À Noël il souvent se passe quelques miracles
at Christmas-time EXPL often occur some miracles

To sum up, French expletive-associate inversion is a type SVI which encodes theticity and serves the function of presenting a non-presupposed referent (on a scene). It is subject to the following conditions:

(39) ***Conditions on French light expletive-associate inversion***

a. *Pre-verbal position*: must be occupied by the expletive *il*.

b. *Verb:*

i. it must be unaccusative-like;

ii. it must be relatively unnoteworthy in relation to the subject, compatible with a presentational/existential function and part of the focus, in order to allow the sentence to fulfil the following discourse function: to present a non-presupposed referent (on a scene) in a thetic way (i.e., as a single informational unit, without internal partitions).

c. *Post-verbal subject*:

i. it must be part of the focus of the sentence.

ii. it must be indefinite.

By and large, French expletive-associate inversion behaves like its English counterpart. There are only three differences between them. First, French allows this type of SVI with unergative verbs that are redundant in relation to the locative, whereas English does not. Second, French requires the verb to agree with the expletive, while English requires it to agree with the logical subject. Finally, French has V-to-I movement, but English does not.

5.4. Summary

In conclusion, like English, French does not allow SVI to occur freely. This word order is only permitted in a relatively limited set of structures where the EPP is typically satisfied by an overtly realised XP, such as the expletive *il* 'it/there' or a loco-temporal XP. There is, nonetheless, an inversion structure where the EPP is satisfied by a covert element in French: covert locative inversion. Crucially, this type of SVI does not seem to be part of the core grammar of French, as it is only acceptable in narrative styles.

The core grammar of French behaves very much like that of English with respect to the three types of SVI on which the present study focuses: (i) "free" inversion, (ii) overt light locative inversion and (iii) light expletive-associate inversion. There are only three minor differences between these languages. First, French allows both light locative inversion and light expletive-associate inversion with unergative verbs when they are redundant in relation to the locative, while English does not. Second, French has V-to-I movement, but English does not. Finally, in expletive-associate inversion, French requires the verb to agree with the expletive, whereas English requires it to agree with the logical subject. Despite these differences, it can be concluded that native knowledge of French is likely to facilitate the acquisition of SVI in L2 English.

Chapter 6

Subject-verb inversion in European Portuguese

6.1. Introduction

Unlike English and French, EP is a consistent NSL and, as such, exhibits a high degree of word order flexibility.[77] As shown in (1), this language, whose canonical word order is SVO,[78] admits six orderings between subject, verb and object (Costa, 1998, 2001, 2004; Martins & Costa, 2016).[79]

(1) a. SVO: Esse tipo de notícias pouco interessa ao cidadão comum.
that type of news little is-of-interest to-the citizen common
'That type of news is of little interest to the common citizen'
b. OVS: Ao cidadão comum pouco interessa esse tipo de notícias.
c. VOS: Pouco interessa ao cidadão comum esse tipo de notícias.
d. VSO: Pouco interessa esse tipo de notícias ao cidadão comum.
e. OSV: Ao cidadão comum, esse tipo de notícias pouco interessa.
f. SOV: Esse tipo de notícias, ao cidadão comum pouco interessa.

(Martins & Costa, 2016: 350)

In EP, SVI is not only very productive, but also subject to few constraints. Indeed, unlike English (and French), EP does not require the canonical subject position to be filled by phonetically realised XPs. Moreover, it allows SVI with definite and indefinite subjects (e.g., I. Duarte, 2003) and with all types of verbs, though not in all discourse contexts (e.g., Costa, 1998, 2004). As a result, SVI is considered to be syntactically "free" in EP.

[77] For details on the relation between SVI and the null subject parameter, see chapter 3.
[78] For arguments in favour of the view that EP (and other Romance NSLs) are SVO languages, see chapter 3.
[79] Note, however, that, as Costa (2004) points out, SOV is ungrammatical with certain transitive verbs:
(i) *O João o bolo comeu.
No effect of verb is observed with respect to VSO, VOS, OSV and OVS orders:
(ii) a. SVO: O João comeu o bolo.
the João ate the cake
b. VSO: Comeu o João o bolo.
c. VOS: Comeu o bolo o João.
d. OSV: O bolo o João comeu.
e. OVS: O bolo comeu o João.

(2) a. ***Transitive verb***

Partiu (a janela) um/o menino loiro (a janela).

broke (the window) a/the boy blond (the window)

b. ***Unaccusative verb***

Chegou um/o menino loiro.

arrived a/the boy blond

c. ***Unergative verb***

Falou um/o menino loiro.

spoke a/the boy blond

(3) a. *Broke (the window) a/the blond boy (the window).

b. *Arrived the/a blond boy.

c. *Spoke the/a blond boy.

The constraints to which "free" inversion is subject are mainly of a discourse nature. As Costa (1998, 2001, 2004) points out, each of the possible word orders listed in (1) is associated with a distinct discourse context. This is illustrated in examples (4) to (8), where the preferred word order per discourse context is presented in bold:

(4) ***Sentence focus***

A: O que aconteceu?

what happened

B: a. **O Paulo partiu a janela.**

the Paulo broke the window

b. #Partiu o Paulo a janela.

c. #Partiu a janela o Paulo.

d. #A janela o Paulo partiu.

e. #A janela partiu o Paulo.

(Costa, 2004:79)

(5) ***Predicate focus***

A: O que fez o Paulo?

what did Paulo do

B: a. **O Paulo partiu a janela.**

the Paulo broke the window

b. #Partiu o Paulo a janela.

c. #Partiu a janela o Paulo.

d. #A janela o Paulo partiu.

e. #A janela partiu o Paulo.

(6) ***Narrow focus on the object***

A: O que é que o Paulo partiu?

what did Paulo break

B: a. **O Paulo partiu a janela.**

the Paulo broke the window

b. #Partiu o Paulo a janela.

c. #Partiu a janela o Paulo.

d. #A janela o Paulo partiu.

e. #A janela partiu o Paulo.

(Costa, 2004:79)

(7) ***Narrow focus on the subject***

A: Quem é que partiu a janela?

who broke the window

B: a. #O Paulo partiu a janela.

the Paulo broke the window

b. #Partiu o Paulo a janela.

c. **Partiu (a janela) o Paulo**.

d. A janela o Paulo partiu.

e. A janela partiu o Paulo.[80]

(Costa, 2004:80)

(8) ***Subject and object focused***

A: Ninguém partiu nada

no one broke anything

B: a. (#)O Paulo partiu a janela.[81]

the Paulo broke the window

b. **Partiu o Paulo a janela.**

c. #Partiu a janela o Paulo.

d. #A janela o Paulo partiu.

[80] At least for some speakers, (7e) is as good as (7c).

[81] Costa (2004:80) marks this sentence as infelicitous, but at least some native speakers consider it felicitous, particularly if preceded by a sentence like *isso não é verdade* ('that is not true').

e. #A janela partiu o Paulo.

(Costa, 2004:80)

As shown in the examples above, in EP, generally, SVI is only possible with transitive verbs in the contexts where the subject is focused, as in (7), or in multiple foci contexts, such as (8).[82] I shall leave the latter case aside in this chapter, since what is at stake in structures like (8) is not the expression of information focus, but rather the expression of exhaustivity (cf. Costa, 2004).

As is the case with transitive verbs, most intransitives only allow SVI when the subject is assigned narrow information focus. There is, however, a set of intransitive verbs, such as *chegar* 'to arrive' and *telefonar* 'to call', that admits this non-canonical word order not only in narrow focus contexts, but also in sentence focus contexts like (9). Following Pinto (1997) and Sheehan (2007, 2010), I will assume here that, in the latter context, VS is triggered by a covert fronted locative, thus constituting an instance of covert locative inversion. I will further assume with Sheehan (2007) that the VSPP structures which occur in this context are instances of covert expletive-associate inversion. This is the case of example (10).

(9) A: O que aconteceu?
what happened
B: a. O João chegou.
the João arrived
b. Chegou o João.
arrived the João

(10) A: O que aconteceu?
what happened
B: Entrou um rapaz no carro.
entered a boy in the car

In the light of the facts briefly described above, in the present work, I will assume, along with Sheehan (2007, 2010), that the so-called "free" inversion is not a homogeneous phenomenon. Rather, it comprises three different phenomena in EP (and in other Romance NSLs): (i) SVI triggered by narrow focus on the subject, (ii) covert

[82] As will be shown in section 6.3., SVI is possible with transitive verbs in sentence focus contexts when their complement is a dative clitic.

locative inversion, and (iii) covert expletive-associate inversion. Each of these SVI structures will be examined in detail in the present chapter.

The chapter is organised as follows: in section 6.2, I analyse the discourse and syntactic properties of "free" inversion in narrow subject focus contexts. Section 6.3 examines the properties of the "free" inversion structures which occur in sentence focus contexts, namely covert locative inversion and covert expletive-associate inversion. In section 6.4, I analyse the properties of overt locative inversion in EP. Finally, section 6.5 presents the main conclusions of the chapter and summarises the differences and similarities between EP, on the one hand, and French and English, on the other, with respect to the three types of SVI structures on which the present thesis focuses: "free" inversion, expletive-associate inversion and overt locative inversion.

6.2. "Free" inversion in narrow focus contexts

In EP, when the subject receives narrow information focus, V(O)S is always preferred over the canonical SV(O) order, independently of the type of verb and the (in)definite status of the subject, as shown in examples (11) to (13).

(11) ***Unaccusative verb***

A: Quem chegou?
who arrived

B: a. Chegou o João / um rapaz.
arrived the João / a boy

b. #O João / um rapaz chegou.
the João / a boy arrived

(12) ***Unergative verb***

A: Quem falou?
who spoke

B: a. Falou o João / um rapaz.
spoke the João / a boy

b. #O João / um rapaz falou.
the João / a boy spoke

(13) ***Transitive verb***

A: Quem comeu o bolo?
who ate the cake

B: a. Comeu (o bolo) o João / um rapaz.[83]
ate (the cake) the João / a boy

b. #O João / um rapaz comeu (o bolo).
the João / a boy ate (the cake)

To explain why V(O)S is preferred over SV(O) in narrow focus contexts, we need to consider two well-established prosodic constraints:[84] (i) the focus prominence constraint (FPC), which determines that the part of the sentence that is focused must contain the rhythmically most prominent word, i.e., the word that bears the nuclear stress (cf. Reinhart, 2006; Zubizarreta, 1998, 2016); and (ii) the nuclear stress rule (NSR), which determines that the nuclear stress must be assigned to the most embedded constituent of the sentence (Cinque, 1993).

The FPC is fully compatible with the NSR when the constituent that one wants to focus is part of the set of possible neutral foci associated with the SV(O) sentence (14). In contrast, when one wants to narrowly focus the subject of the sentence, which, as shown in (14), is not part of the focus set defined by the nuclear stress, there arises a conflict between these rules. On the one hand, the FPC requires the focused subject to contain the word that bears nuclear stress and, on the other, the NSR determines that the nuclear stress must be assigned to the rightmost constituent of the sentence, which is the object in the case of SVO sentences like (14).

(14) [$_{IP}$ O João comeu o <u>bolo</u>.][85]
the João ate the cake
Focus set: {IP, VP, Object}

In order to solve this conflict between the NSR and the FPC, EP resorts to a syntactic strategy: SVI. Unlike what happens in SV(O) sentences, in V(O)S sentences, there is no conflict between these constraints when the subject is narrowly focused, because the subject surfaces in the position to which the nuclear stress is assigned via the NSR – the rightmost position of the sentence– and, consequently, contains the

[83] Note that there seems to be some variation in native speakers' judgements with respect to the grammaticality of VOS in narrow focus contexts with non pronominal subjects.
[84] For further information on these rules, see chapter 2.
[85] The underlined word indicates the position of the nuclear stress.

rhythmically most prominent word, just as required by the FPC. SVI, therefore, allows EP to align focus with nuclear stress in narrow subject focus contexts (cf. (15) vs. (16)).

(15) A: Quem comeu o bolo?
who ate the cake
B: [O João [comeu [o bolo]]].
the João ate the cake
[+Foc] [-Foc] [-Foc] Focus
* Nuclear stress

(16) A: Quem comeu o bolo?
who ate the cake
B: [Comeu [o bolo [o João]]].
ate the cake the João
[-Foc] [-Foc] [+Foc] Focus
* Nuclear stress

While EP and other Romance NSLs, such as Italian and Spanish, can resort to SVI for aligning focus with nuclear stress, French and English cannot. Their grammar is unable to generate this non-canonical word order (17). For this reason, they have to resort to other strategies in order to align focus with nuclear stress. French typically uses reduced clefts, such as the ones in (17a-b), for this purpose (cf. Belletti, 2007, 2010). English, on the other hand, assigns a marked stress to the subject via a stress-shift operation (17c-d) (Belletti, 2007, 2010; Nava & Zubizarreta, 2010; Reinhart, 1995, 1999, 2006; Zubizarreta & Nava, 2011). This prosodic strategy for aligning stress with focus is less economical than SVI, since it nullifies the work of the NSR and requires the speaker to check whether there is no other cheaper alternative that can derive the desired interpretation, thus involving a reference-set computation (cf. Reinhart, 2006). Despite being a costly operation, stress-shift is permitted in order for the sentence to meet discourse requirements.

(17) a. A:Qui a mangé le gâteau? B: *A mangé le gâteau Jean / C'est Jean.
b. A: Qui est arrivé ? B: *Est arrivé Jean. / C'est Jean.
c. A: Who ate the cake? B:*Ate the cake John. / JOHN[86] ate the cake.

[86] UPPERCASE lettering indicates marked stress.

d. A: Who arrived? B: *Arrived John. / JOHN arrived.

The differences between EP, on the one hand, and English and French, on the other, with respect to SVI in narrow focus contexts stem from a purely syntactic factor: the grammar of EP, but crucially not that of English and French, can license referential null subjects. As noted in chapter 3, the languages that license this type of null subjects seem to be the only ones which admit "free" inversion in narrow focus contexts. To determine how the availability of referential null subjects may be syntactically related to the availability of SVI, in the remainder of this section, I will examine in detail the syntax of "free" inversion in narrow focus contexts in EP.

In the literature on EP linguistics, three main types of syntactic analyses of "free" inversion (in narrow focus contexts) have been proposed. According to one kind of analysis championed by Ambar (1992), in the derivation of SVI structures, the subject moves from its base-generated position to Spec, IP, while the verb undergoes V-to-I-to-C movement. According to an alternative analysis formulated by I. Duarte (1997), under certain conditions, the subject does not move all the way up to Spec, IP, its canonical landing site, and stays stranded in the Spec of a functional projection higher than VP, but below the inflectional head to which the verb moves, thus giving rise to SVI. A yet different analysis is proposed by Costa (1998, 2004). According to him, in the derivation of SVI structures, the subject remains in its base position in the VP, while the verb moves to T (i.e., the lowest head of the IP domain, which Costa assumes to be composed of the separate functional projections TP and AgrP, in line with the Split Inflection Hypothesis (Pollock, 1989)). Thus, all analyses agree that the verb moves out of the VP in VS orders, but there is no consensus as to whether the subject also moves from its base-generated position.

That the verb in EP does move out of the VP is confirmed by the patterns of adverb placement in (18). As previously noted, since Emonds (1976) and Pollock (1989), the occurrence of the verb to the left of an adverb like *frequentemente* 'often', which is assumed to be in an adjoined position outside the VP, is taken to be evidence that the verb moved from V to a higher position.

(18) A: Que animais aparecem por aqui nesta altura?
which animals appear around here in-this season
B: Aparecem frequentemente raposas e veados.
appear often foxes and deer

Following Costa (1998, 2004), in this thesis, I assume that the position to which the verb moves in V(O)S(O) structures is T.[87] This is due to two main reasons. First, contrary to what Ambar (1992) proposes, it cannot be the case that the verb undergoes V-to-C movement in these structures, because V(O)S(O) is a grammatical word order in embedded clauses, where, under standard assumptions, C is occupied by the complementizer *que* (19). Thus, it is not an available landing site for the verb. Second, since the pattern of adverb placement in SVI structures (18) is similar to the one found in SV(O) structures like (20), there appears to be no reason to postulate that the verb occupies different positions in the two structures. Note that it is by now widely accepted that, in EP, the verb moves to T and not to the highest head of the IP domain, and that, as a consequence, the verb and the subject are not in a spec-head configuration (cf. in particular, Costa, 2004).

(19) A Maria disse que comeu (a sopa) o João (a sopa).
the Mary said that ate (the soup) the João (the soup)

(20) Este gato aparece frequentemente aqui.
this cat appears often here

The proposal that the verb is moved to T in EP is supported by three pieces of evidence: (i) the fact that EP lacks subject-verb adjacency,[88] while the languages with V-to-I movement (=V-to-Agr movement), such as French, have it; (ii) the fact that adverbs like *frequentemente* 'often', which can be adjoined to the VP, as well as to the TP, can intervene between the subject and the verb in EP (21); and (iii) the fact that in a

[87] In this thesis, I assume that, as Pollock (1989) first proposed, the functional projection IP is decomposed into separate functional projections: AgrP (the highest projection) and TP (the lowest one). However, whenever the division between AgrP and TP is not particularly relevant to account for the data under analysis, I use the terms "IP" and "I" for the sake of simplicity. Also note that, throughout the thesis, I use the term "Spec, IP" as a cover term for the canonical subject position.

[88] Another way of accounting for the lack of subject-verb adjacency in EP would be to follow Belletti's (1990) approach to similar facts in Italian. According to her, the verb is in I and the order S Adv V is derived through left-dislocation of the subject. This analysis is confirmed by her observation that the order S-Adv-V is not possible with subjects which cannot be left-dislocated in Italian, such as the N-word, *nessuno* ('no one').

(i) a. Gianni probabilmente sbaglierà.
Gianni probably will-fail
b. *Nessuno probabilmente sbaglierà.
no-one probably will-fail

As Costa (1998, 2004) rightly points out, this analysis cannot be extended to EP, as the asymmetries displayed in (i) do not exist in EP.

(ii) a. O João provavelmente falhará.
the João probably will-fail
b. Ninguém provavelmente falhará.
no-one probably will-fail

sentence like (22) the verb appears between the adverb *frequentemente* 'often' and the monosyllabic adverb *mal* 'badly', which, according to Costa (2004), marks the left edge of the VP in EP (22).

(21) a. O João lê frequentemente este livro. / Jean lit souvent ce livre.
the João reads often this book Jean reads often this book
b. O João frequentemente lê este livro. / *Jean souvent lit ce livre.
the João often reads this book Jean often reads this book

(22) a. O João frequentemente ouve mal.
the João often hears badly
b. *O João frequentemente mal ouve.
the João often badly hears

If, in EP, the verb is in T both in SV and VS orders, then post-verbal subjects must be inside the VP, just as proposed by Costa (2004) contra Ambar (1992) and I. Duarte (1997).[89] The following question, then, arises: what satisfies the EPP in the SVI structures which occur in narrow focus contexts?

One possible way of answering this question would be to claim that, in narrow subject focus contexts, there are two contrasting driving forces at play: the Right Edge Alignment of Focus (REAF), which determines that a focused constituent must occupy the rightmost position, and the EPP, which attracts the subject to Spec, IP. In this context, the REAF could be stronger than the EPP and able to suspend it, allowing the focused subject to remain in a low position.[90] The problem of pursuing an account along these lines lies in the fact that it fails to explain why SVI seems to be admitted in narrow focus contexts exclusively by consistent NSLs.

[89] The fact that, in EP "free" inversion, a floating quantifier like *todos* 'all' can appear immediately before the subject it modifies but not between the auxiliary and the participle suggests that the subject has not moved from the VP to the IP domain and then to a right-adjoined position (for details on the behaviour of floating quantifiers, cf. chapter 4).

(i) A: O que tinha desaparecido antes do Natal?
what had disappeared before the Christmas
B: a. Tinham desaparecido todas as chaves.
had disappeared all the keys
b. *Tinham todas desaparecido as chaves.
had all disappeared the keys

(ii) As chaves tinham todas desaparecido.
the keys had all disappeared

[90] An account along these lines has been proposed by Culicover and Winkler (2008) for explaining the violations of the EPP which occur in English comparative inversion, *so*-inversion and *as*-inversion.

Another possible way of explaining how the EPP is satisfied in the SVI structure under analysis would be to advocate that it is the verb that satisfies this principle. Such a solution is proposed by Costa and Duarte (2002). Following Alexiadou and Anagnostopoulou (1998) and Bailyn (2004), Costa and Duarte assume that there is an EPP parameter which establishes that this principle can be checked either by an XP in Spec, IP (in their terms Spec, AgrSP) or by a raised head. They defend that both options are available in EP: in some constructions, the subject raises to Spec, IP, whereas, in others, the verb raises from V to T and then to the highest head of the IP domain (in their analysis AgrS), thus satisfying the EPP feature on that head. Based on the assumption that the verb in EP undergoes short-movement to T and that the post-verbal subject may occupy either Spec, TP or Spec, VP, Costa and Duarte advocate that both options for satisfying the EPP are derivationally identical with respect to economy, because both the subject DP (in Spec, TP) and the verb (in T) count as the closest constituent with respect to the highest head of the IP. In more formal terms, both options meet the locality constraint formulated by Pesetsky and Torrego (2001):

(23) ***Attract closest X***

If a head K attracts X, no constituent Y is closer to K than X.

Nevertheless, if one adopts the view put forth in more recent work by Costa (2004), according to which the subject occupies Spec, VP in SVI structures and Spec, TP is never occupied by the subject in declaratives, then it cannot be maintained that both options for satisfying the EPP are equally close to the highest head of the IP system. The verb in T will always be closer to that head than the subject DP. As a consequence, according to (23), the verb, and not the subject, should be attracted to the highest head of the IP to value its EPP-feature. This would then predict that analyses along the lines of Barbosa's (1995) are correct. Nevertheless, as shown in chapter 3, this does not seem to be the case.

A yet different way of explaining how the EPP is satisfied in SVI would be to claim that a null subject does this job. Belletti (2005b) proposes that this is what happens in narrow focus contexts in Italian (and possibly in other Romance NSLs). She defends that the post-verbal subject and a silent referential pronoun *pro* are generated as part of a big DP and that the features of the overt (pronominal or lexical) subject are inherited by *pro* through a regular agreement process which takes place in the original big DP. According to her proposal, when the two parts of this DP split in the course of

derivation, *pro* moves to the EPP position, while the overt subject moves to a focus position in the VP-periphery. Since Belletti's (2005b) account of how the EPP is satisfied in SVI structures does not depend on the postulation of a VP-periphery and, more importantly, is able to account for the cross-linguistic correlation between referential null subjects and "free" inversion in narrow focus contexts (cf. chapter 3), in the present work, I will tentatively assume that, in EP, the post-verbal subject and a silent referential pronoun *pro* are generated as parts of a big DP and split in the course of derivation: *pro* raises to Spec, IP to satisfy the EPP, whereas the overt subject remains *in situ*, where it is licensed via Agree. I will further assume with Nicolis (2008) that this doubling configuration is only activated when the subject is interpreted as the narrow focus.

To sum up, the type of "free" inversion analysed in this section is only subject to the discourse condition in (24).

(24) ***Condition on "free" inversion in narrow focus contexts***
The subject must be narrowly focused

When the subject conveys narrow focus, it surfaces post-verbally in EP due to two prosodic considerations: (i) the need for focus to be the most prosodically prominent element, and (ii) the NSR, which determines that the nuclear stress must be assigned to the most embedded constituent of the sentence. Crucially, SVI is only possible in this context because EP can satisfy the EPP by moving a referential *pro* to the canonical subject position. As described in chapter 3, null referential *pro* is licensed exclusively in languages which have an uninterpretable D-feature on I, such as EP, Spanish and Italian. The languages whose syntax is unable to generate referential null subjects and VS orders, like English, resort to other strategies for aligning focus with stress in narrow subject focus contexts (cf. Belletti 2007, 2010 for an overview of the strategies used cross-linguistically).

6.3. "Free" inversion in sentence focus contexts

In sentence focus contexts, VS structures typically serve the function of marking theticity (Kato & Martins, 2016; Lobo & Martins, 2017; Martins & Costa, 2016). They present a real or imagined situation as a whole, without assigning a topic status or giving any type of informational highlighting to a single entity. Given that thetic

sentences cannot present what has not happened (yet) in a real or imagined world (Kuroda, 2005), all-focus VS structures are incompatible with negation in EP (Martins & Costa, 2016), as shown in (25):

(25) A: O que se passa?
what's the matter
B: a. O Presidente morreu.
the President died
b. Morreu o Presidente.
died the President
c. O Presidente não morreu [context: the President's life was at risk]
the President not died
d. # Não morreu o Presidente.
not died the President

(Martins & Costa, 2016: 359)

Contrary to what happens in narrow focus contexts, in sentence focus contexts, VS orders are only allowed with a restricted group of intransitive verbs (Sheehan, 2007, 2010).[91] This group of verbs, which I will call "inversion verbs" following Pinto (1997), cuts across the traditional unaccusative/unergative distinction. In fact, as shown in (27) and (28), within each of these subclasses of intransitives, there are verbs that allow SVI and verbs that disallow it.

(26) ***Transitive verbs***
A: O que aconteceu?
what happened

[91] Despite recognising that EP disallows VS with direct transitive verbs, Kato and Martins (2016) argue that transitive verbs are admitted in thetic VS sentences when they take an indirect object (i)-(ii) and when their complement is a dative clitic (iii). However, most of the native speakers I consulted (4 out of 5) consider sentences like (i) and (ii) unacceptable and only admit SVI in this context with transitive verbs when their complement is a dative clitic. As transitive verbs will not be tested in the present thesis, I leave open the question of why a sentence like (iii) is admitted in EP.

(i) A: O que aconteceu? ('What happened?')
B: ?Picou uma abelha ao João. (adapted from Kato & Martins, 2016: 24)
stung a bee to-the João

(ii) A: O que aconteceu? ('What happened?')
B: ?Mordeu um cão ao gato. (adapted from Kato & Martins, 2016: 24)
bit a dog to-the cat

(iii) A: O que aconteceu? ('What happened?')
B: Mordeu-lhes um cão. (adapted from Kato & Martins, 2016: 24)
bit them a dog

B: #Comeu (o bolo) o João (o bolo). / O João comeu o bolo.
ate (the cake) the João (the cake) the João ate the cake

(27) ***Unergative verbs***

A: O que aconteceu?
what happened

B: a. #Falou o João. / O João falou.
spoke the João the João spoke

b. Telefonou o João. / O João telefonou.
telephoned the João the João telephoned

(28) ***Unaccusative verbs***

A: O que aconteceu?
what happened

B: a. Chegou o João. / O João chegou.
arrived the João the João arrived

b. #Descongelou o lago. / O lago descongelou.
defrosted the lake the lake defrosted

According to Pinto (1997) and Sheehan (2007, 2010), what differentiates the verbs that admit inversion in sentence focus contexts from the remaining intransitive verbs is that the former, but not the latter, optionally select an extra covert loco-temporal argument (LOC), which is a possible candidate for satisfying the EPP and typically gets a speaker-oriented, deictic interpretation. Thus, according to this analysis, "free" inversion in sentence focus contexts is an instance of covert locative inversion.[92]

One of the key pieces of evidence that supports this proposal is the fact that VS orders differ slightly in meaning from SV orders in sentence focus contexts (cf. Pinto, 1997; Sheehan, 2007, 2010). In VS orders, the location of the event/action is associated with that of the speaker, while, in SV orders, a location-neutral interpretation is strongly preferred (29). The subtle change in meaning triggered by SVI suggests that a null loco-temporal argument is involved in the derivation of this non-canonical word order.

(29) A: O que aconteceu?
what happened

[92] The type of covert locative inversion admitted in EP differs from that of French in two crucial ways. First, unlike French, EP admits this inversion in unmarked styles and registers. Second, unlike French, EP allows covert locative inversion in out-of-the-blue contexts.

B: Chegou o João. / O João chegou.
arrived the João (here) / the João arrived (somewhere)

Additional support for the claim that inversion verbs optionally select LOC comes from the fact that overt locative arguments tend to be incompatible with "free" inversion structures in sentence focus contexts. Consider the following examples:

(30) [Speakers A and B are in Lisbon]
A: Porque é que estás tão feliz? O que aconteceu?
why are you so happy? what happened?
B: a. #Chegou o João a Lisboa.
arrived the João to Lisbon
b. O João chegou a Lisboa.
the João arrived to Lisbon

If we assume with Sheehan (2007, 2010) that a locative argument is projected only once and that the null argument LOC satisfies the EPP in the SVI structures which are embedded in sentence focus contexts, the unacceptability of the VS structure in (30) can be straightforwardly explained as follows: unlike what happens in (29), in (30), a locative argument is overtly realised and, consequently, LOC cannot be projected and moved to Spec, IP to satisfy the EPP. As nothing satisfies the EPP in (30a), this sentence is not allowed in EP.

Finally, the claim that all-focus VS structures are licensed by a preposed covert loco-temporal argument is supported by the following piece of evidence: the verbs which do not project LOC, either because they obligatorily select an overt loco-temporal argument (e.g., *residir* 'to reside/live') or because they do not select any additional loco-temporal argument (e.g., *vomitar* 'to vomit'), are incompatible with this type of SVI.

(31) A: Porque é que estás tão surpreendida?
why are you so surprised
B: #Reside o Presidente em Chelas.
lives the President in Chelas

(32) A: Porque é que estás preocupada?
why are you worried
B: #Vomitou o João.

vomited the João

In the light of these pieces of evidence, it can be concluded that the availability of "free" inversion in sentence focus contexts is dependent on the availability of LOC, just as proposed by Pinto (1997) for Italian and Sheehan (2007, 2010) for Romance NSLs in general. At the level of discourse, LOC acts as a stage topic, since it defines a location and its content is readily taken for granted by the addressee. In other words, it is presupposed. By default, LOC receives a deictic interpretation, i.e., it is interpreted as referring to the here and now of the speaker, as in (29). Nonetheless, it can also have an anaphoric reading, as in (33). In short, depending on the context where it is embedded, LOC can function either as a covert deictic stage topic or as a covert anaphoric stage topic.

(33) A: Nós andávamos a brincar no parque e resolvemos entrar na casa abandonada.
we were playing in the park and decided to enter the abandoned house
B: E o que aconteceu?
and what happened
A: Apareceu um fantasma.
appeared a ghost (stage topic = "afterwards, in the abandoned house")

Following Pinto (1997) and Sheehan (2007, 2010), I assume that the licensing of LOC is a necessary condition for VS to be grammatical in sentence focus contexts due to a purely syntactic reason: this argument is a possible EPP-satisfier. This means that, while the verbs which do not project LOC can only satisfy the EPP by moving the subject to Spec, IP,[93] those which select LOC can satisfy the EPP not only by resorting to this strategy, but also by raising this argument to Spec, IP. The latter strategy frees the subject from the need to move from its base-generated position, in the VP. For this reason, when the EPP is satisfied by LOC, the subject remains *in situ* throughout the derivation and then surfaces to the right of the verb, which occupies T.

Contrary to what the analysis of "free" inversion presented so far might suggest, in EP, the order *VS+overt loco-temporal argument* is not completely rejected in sentence focus contexts. As Sheehan (2007, 2010, 2016) points out, there is a circumstance under which this word order is possible: when the subject is indefinite (cf.

[93] As pointed out in section 6.2, a referential *pro* is only available as a possible EPP-satisfier in contexts where the subject receives narrow focus.

(34) and (35)). Assuming that definiteness effects strongly correlate with the presence of an (overt or covert) expletive in the canonical subject position,[94] Sheehan proposes that sentences like (34a) and (35a) are grammatical because VSPP involves a null expletive (and crucially not LOC) in Spec, IP. Importantly, as Sheehan's analysis would predict, in the VS structures where Spec, IP is occupied by LOC, there are no definiteness effects, as illustrated in (36).

(34) A: O que se passa?
what's the matter

B: a. Morreu um senhor no comboio. / Um senhor morreu no comboio.
died a man in-the train a man died in-the train

b. #Morreu o João no comboio. / O João morreu no comboio.
died the João in-the train the João died in-the train

(35) a. Olha… pousou uma águia no plátano. / Olha…uma águia pousou no plátano.
look landed an eagle on-the maple-tree look an eagle landed on-the maple-tree

(adapted from Martins, 2010: 12)

b. #Olha…pousou a águia no plátano. / Olha…a águia pousou no plátano.
look landed the eagle on-the maple-tree / look the eagle landed on-the maple-tree

(36) A: O que aconteceu?
what happened

B: Morreu um senhor. / Morreu o João.
died a man died the João

According to Sheehan (2007), the VSPP structures of EP are similar to English (and French) expletive-associate inversion in that they (i) are subject to definiteness effects (35)-(36), and (ii) occur mainly with unaccusative verbs. In addition, as is the

[94] Sheehan (2007) proposes that the expletive is only compatible with indefinites because it is interpreted as an existential quantifier at LF. Although it is generally accepted that there is a strong tendency for definiteness effects to occur precisely when the canonical subject position is filled by an expletive, Sheehan's proposal is far from consensual (for arguments against this view, see Leonetti (2016)). In the present thesis, I assume with Sheehan that there is a strong association between the presence of an expletive and definiteness effects, but leave unsolved the mystery of why this association exists.

case with English and French expletive-associate inversion, Portuguese VSPP sentences typically have a thetic interpretation[95] in that they are interpreted as a single informational unit, without internal partitions (Kato & Martins, 2016; Lobo & Martins, 2017; Martins, 2010; Martins & Costa, 2016). The VS structures in (35a) and (36a) can, therefore, be considered instances of covert expletive-associate inversion.

EP expletive-associate inversion differs from its English and French counterparts in three crucial respects. First, EP allows this inversion with all subclasses of unaccusative verbs, including those which tend to be rejected in French and English (37). Second, even though the EP speakers I consulted exhibit a preference for producing VSPP structures with unaccusative verbs, they tend to admit this word order with true unergative verbs (38), which are completely rejected in French and English expletive-associate inversion.[96] Finally, while English and French require the expletive subject to be overtly realised, EP requires the expletive to remain unexpressed in VSPP structures (39).[97] This is because these languages fix the PF-interpretability micro-parameter on Spec, IP at different values: a positive value in the case of English and French and a negative value in the case of EP (for further details, cf. chapter 3).

(37) A: O que aconteceu?
what happened
B: a. Derreteu muita neve nas ruas de Chicago.
b. ??Il a fondu de la neige dans les rues de Chicago.

[95] EP marginally admits the order VSPP in narrow subject focus contexts, where it does not receive a thetic interpretation. Unlike what happens in thetic contexts, here VSPP is not subject to definiteness effects.

(i) A: Quem pousou no plátano? B: Pousou a / uma águia no plátano.
who landed on the maple-tree landed a/the eagle on-the maple-tree

The absence of definiteness effects in sentences like (i) suggests that, in narrow subject focus, VSPP does not involve the merging of an expletive in Spec, IP. Consequently, it is not an instance of expletive-associate inversion, but rather of "free" inversion triggered by focus (cf. section 6.2). Note that, as Martins (2010) points out, the preferred word order in narrow subject focus is VPPS and not VSPP.

[96] Native speakers of EP also admit VSPP structures with transitive verbs when the complement is a dative clitic (i). I do not discuss these cases here, because only intransitive verbs will be tested in this thesis.

(i) A: O que aconteceu? ('what happened?')
B: a. Picou-lhe uma abelha na cara. (Kato & Martins, 2016) / ??Picou uma abelha ao João na cara.
b. *Il lui a piqué une abeille le visage. / *Il a piqué une abeille (à) Jean le visage.
c. *There stung him a bee on the face. / *There stung a bee John (on the face).

[97] It should, however, be noted that, as observed by Costa (2004), inversion with an overt expletive (*ele*) is attested in some dialects of EP.

(i) Ele morreu muitas pessoas naquele acidente. (*Standard EP / ✓Dialectal EP)
he-EXPL died many people in that accident
(Costa, 2004: 117)

c. ??There melted a lot of snow on the streets of Chicago.

(38) A: O que aconteceu?
what happened
B: a. Vomitou um rapaz junto à nossa mesa.
b. *Il a vomi un garçon à côté de notre table.
c. *There vomited a boy next to our table.

(39) a. There appeared a large crack in the wall. / *Appeared a large crack in the wall.
b. Il est apparu une large fissure sur le mur. / *Est apparu une large fissure sur le mur.
c. *Ele apareceu uma grande fissura na parede. / Apareceu uma grande fissura na parede.

The differences between EP, on the one hand, and English and French, on the other, with respect to distribution of intransitive verbs in expletive-associate inversion are mainly motivated by the following difference in the discourse domain: in English and French, expletive-associate inversion has a presentational function, while, in EP, this type of SVI is not restricted to such function. It has the broader function of conveying thetic judgements. For this reason, unlike what happens in English and French, in EP, expletive-associate inversion is not restricted to an entity-central thetic reading. It can also convey event-central thetic judgements.[98] [99] Since there seems to be no incompatibility between theticity and unaccusatives of change of state and non-redundant unergative verbs, EP admits these verbs in expletive-associate inversion. As explained in chapters 4 and 5, English and French tend to reject them, because unaccusatives of change of state and "true" unergatives add information which either goes beyond or is incompatible with the existence/appearance of the subject on the scene. Hence, they are unable to fulfil the presentational function that expletive-associate inversion has in English and French.

Though the discourse factor just described is the main cause for the differences between EP and English regarding the distribution of verbs in expletive-associate inversion, there is a syntactic fact that also contributes to those differences: the fact that

[98] Recall that, as noted in chapter 2, entity-central thetic statements assert the existence/appearance of an entity, while event-central thetic statements describe an event.
[99] For example, the sentence (38a) is an event-central thetic statement in that it describes the event of vomiting in which the entity "a boy" is involved.

the lexical verb occupies a VP-internal position in English and a VP-external position in EP. That this is the case is proved by the patterns of adverb placement in (40). Recall that the adverb "often" is generally assumed to be in an adjoined position outside the VP. For this reason, the occurrence of this adverb to the right of the verb, as in (40a), indicates that the verb has moved from V to the inflectional domain. On the other hand, the occurrence of the subject in a position to the right of "often", as in (40a) and (40b), can be taken as evidence that the subject is *in situ* in the VP.

(40) a. (Frequentemente) aparecia (frequentemente) um fantasma na biblioteca.

b. There (often) appeared (*often) a ghost in the library.

Given that the lexical verb does not move out of the VP in English, when the subject is light and cannot be heavy-DP shifted to a right-adjoined position, the order *There*VS(PP) can only be obtained with verbs whose sole argument is base-generated in a position to the right of V, i.e., unaccusative verbs (cf. chaper 4). In EP, as the verb moves out of the VP to a higher position, the subject inevitably surfaces in a post-verbal position when it remains *in situ*, even in the cases where the subject is base-generated in Spec, VP. This fact explains why it is syntactically possible for EP expletive-associate inversion to occur with both unaccusative and unergative verbs, regardless of the weight of the subject. A similar line of reasoning cannot be pursued to account for the differences between EP and French expletive-associate inversion, because there is V-to-I movement in French. The differences between this language and EP, therefore, stem exclusively from the discourse factors described above.

To sum up, in sentence focus contexts, what we have been calling "free" inversion is not truly free: it can only occur with some types of verbs and is subject to definiteness effects under certain conditions. In this discourse context, "free" inversion comprises two different syntactic phenomena: (i) covert locative inversion, i.e., SVI triggered by a fronted null loco-temporal argument − LOC −, and (ii) covert expletive-associate inversion, i.e., SVI triggered by an expletive *pro*, which gives rise to definiteness effects. The constraints to which these subtypes of SVI are subject are summarised in (41) and (42).

(41) ***Constraints on covert locative inversion (LOC VS)***

a. The verb must be an intransitive which optionally selects a null loco-temporal argument.

b. The whole sentence must be interpreted as focus.

(42) ***Constraints on covert expletive-associate inversion (pro_{EXPL} VSPP)***

a. The expletive subject must remain unexpressed.

b. The subject must be indefinite.

c. The verb must be intransitive (or a transitive with a dative clitic as its object – see fn 96).

d. The whole sentence must be interpreted as focus.

The availability of covert locative inversion and covert expletive-associate inversion depends on the availability of null locatives and expletives as possible EPP-satisfiers, which, in turn, depends upon the negative setting of a PF-visibility condition on Spec, IP (cf. chapter 3). From this it follows that "free" inversion in sentence focus contexts is ungrammatical in English and French[100] because, unlike EP, these languages require the Spec of I to be spelled out at PF.

6.4. Overt locative inversion

EP admits SVI not only with a preposed covert locative argument, but also with overt loco-temporal XPs (43). Under Pinto (1997) and Sheehan's (2007, 2010) analyses, SVI with an overt locative, as in (43), and SVI with a covert locative (cf. section 6.3) are instances of the same phenomenon: locative inversion. Following Sheehan (2007), I assume that the main difference between overt and covert locative inversion is that the former satisfies the EPP by raising a covert locative, whereas the latter satisfies this principle by raising an overt locative. In this thesis, I leave open the question of whether the overt locative satisfies the EPP by occupying Spec, IP or through some other mechanism (e.g., the one proposed by Rizzi and Shlonsky (2006) for English).

(43) a. Em Lisboa vivem 480 mil pessoas.
in Lisbon live 480 thousand people
b. Aqui viveu Fernando Pessoa.
here lived Fernando Pessoa

[100] Recall that, in French, VS orders without any overt element in the canonical subject position are only possible in narrative texts (cf. chapter 5, section 5.2). "Bare" inversion is not part of the core grammar of French.

As is the case in English and French, in EP, overt locative inversion is only felicitous when the pre-verbal XP is a stage topic,[101] and the post-verbal subject is (part of) the information focus (cf. examples (44) and (45)). These are the only constraints to which pre- and post-verbal constituents are subject in EP locative inversion.

(44) a. ***Locative topic + subject focus***

A Maria tem uma mesa de jantar em mármore. Em cima da mesa está uma jarra de cristal.

the Maria has a dinner table in marble on the table is a vase of crystal

b. ***Locative focus + subject topic***

A Maria tem uma grande jarra de cristal. #Em cima da/ de uma mesa está a jarra (de cristal).

the Maria has a big vase of crystal on the /a table is the vase (of crystal)

c. ***Locative topic + subject topic***

O que faz o ex-presidente brasileiro no bairro de lata? #No bairro de lata vive o ex-presidente brasileiro.

what does the ex-president Brazilian in-the slum? in-the slum lives the ex-president Brazilian

d. ***Locative focus + subject focus***

João, leste isto? #Num bairro de lata vive um ex-presidente brasileiro.

João, read this? in-a slum lives an ex-president Brazilian

(45) a. ***Stage topic + narrow subject focus***

A: Quem nasceu nesta casa? B:Nesta casa nasceu Fernando Pessoa.

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[101] Note that, like the other languages considered in this study, EP allows overt locative inversion at the beginning of narrative texts, as the following example from *Ali Baba and the forty thieves* illustrates.

(i) Há muito tempo, numa pequena cidade da Pérsia viviam dois irmãos: Ali Babá e Cassim.
a long time-ago, in a small city of Persia lived two brothers: Ali Babá e Cassim

This type of (apparently) non-presupposed locative inversion occurs mostly in literary texts (cf. example 48d). Following Birner and Ward (1998), I advocate that this occurs because the hearer/reader expects stories to have spatio-temporal settings. As proposed by Birner and Ward (1998: 176), "in the context of the beginning of a story, the notion of a setting may be assumed to be situationally evoked (Prince 1981)", i.e., salient in the situational context of the discourse. Significantly, in non-literary contexts, the preposed constituents which convey situationally evoked information also admit locative inversion.

(ii) João, em cima daquela mesa está uma caneta azul; podias trazer-ma, por favor?
João, on that table is a blue pen; could you bring it to me, please

In line with Prince (1981), I assume that situationally evoked information constitutes given, rather than new information. I further assume that situationally evoked XPs, such as those in (vi) and (vii), have a presupposed status, corresponding to propositions which "the speaker assumes the hearer already knows or is ready to take for granted at the time the sentence is uttered" (Lambrecht, 1994: 50).

who was-born in-this house in-this house was-born Fernando Pessoa

b. ***Stage topic + wide focus on the subject and the verb***

A: O que aconteceu nesta casa? B:Nesta casa nasceu Fernando Pessoa.

what happened in-this house in-this house was-born Fernando Pessoa

Argumenthood and discourse familiarity, which are two notions often used in the literature to describe the properties of pre- and post-verbal constituents (e.g., Sheehan, 2007; Birner, 1994, 1996; among many others), do not play any role in determining the felicity/grammaticality of these constituents in EP locative inversion. As shown in (46), this construction admits not only arguments, but also adjuncts in pre-verbal position. Moreover, it allows discourse-old and discourse-new pre- and post-verbal constituents (47).

(46) a. ***Locative argument:*** Na mansão vivia uma senhora idosa.

in-the mansion lived a lady old

b. ***Locative adjunct:*** Do barco acenavam os passageiros.

from-the ship waved the passengers

(47) a. ***Discourse-old pre-verbal constituent + discourse-old post-verbal constituent:*** Obama foi cumprimentado pelo diretor do museu, Jean-Luc Martinez, que lhe ofereceu um livro sobre o Louvre. A visita do Presidente dos EUA durou cerca de duas horas. Ao seu lado esteve sempre o diretor do museu, que lhe mostrou as obras-primas em exposição.

Obama was greeted by the director of the museum, Jean-Luc Martinez, who gave him a book about the Louvre. The visit of the President of the USA lasted about two hours. By his side was always the director of the museum, who showed him the masterpieces on display.

b. ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent:*** Fui ao Centro Cultural de Belém ontem e nem imaginas quem estava lá. No meio de um grupo de crianças estava o Presidente da República a cantar as Janeiras.

(I) went to-the Cultural Centre of Belém yesterday and (you) don't imagine who was there. in-the middle of a group of children was the President of-the Republic singing the Janeiras.

One could argue that the data in (47) could be accommodated by an analysis along the lines of the one proposed by Birner and colleagues for English (e.g., Birner, 1994, 1996; Birner & Ward, 1998; Ward et al., 2002), which, as noted in chapter 4, postulates that, in locative inversion, the pre-verbal constituent must represent information that is at least as familiar within the discourse as that represented by the post-verbal constituent. However, if extended to EP, an analysis à la Birner would be disconfirmed by the felicity contrasts between (47b) above and (48) below, which show that the combination of a discourse-new pre-verbal constituent with a discourse-new post-verbal constituent is not always felicitous in this language. The facts illustrated by the examples in (47b) and (48) are only explainable if one assumes – as I do – that the (in)felicity of pre- and post-verbal constituents in locative inversion is determined by their [± presupposed] status, rather than by their discourse familiarity.

(48) ***Discourse-new pre-verbal constituent + discourse-new post-verbal constituent:*** A: Porque é que toda gente parece tão surpreendida? O que se passou? B: #No meio de um grupo de crianças estava o Presidente da República a cantar as Janeiras. / O Presidente da República estava a cantar as Janeiras no meio de um grupo de crianças.

why does everybody look so surprised? What happened? in-the middle of a group of children was the President of-the Republic singing the Janeiras / the President of-the Republic was singing the Janeiras in-the middle of a group of children

Let us examine the sentences in (47b) and (48) in detail. In (47b), the preceding context, namely the sequence "nem imaginas quem estava lá" ('you won't believe who was there'), makes it clear that what is being asserted is the presence of the President, and not where he was. Therefore, in this context, the information presented by the preposed constituent is not under assertion. On the contrary, it appears to be taken for granted. Put differently, it is presupposed. In contrast, in (48), the out-of-the-blue question "O que se passou?" ('What happened?') forces the entire sentence to be interpreted as focus, i.e., as non-presupposed. Given that the only difference between (47b) and (48) is that the pre-verbal locative PP is presupposed in the former example and non-presupposed in the latter, it can be concluded that the factor which determines whether a clause-initial XP can license locative inversion in EP is its [± presupposed] status, rather than its [± discourse-new] status. This is to be expected if, as I argue,

being a stage topic is a necessary and sufficient condition for an XP to be admitted in the pre-verbal position of locative inversion structures.

Although EP locative inversion behaves like its French and English counterparts with respect to pre- and post-verbal constituents, it is not identical to them in all respects. The crucial difference between EP, on the one hand, and French and English, on the other, is that the former language allows locative inversion with all types of intransitive verbs (Pereira, 1998), regardless of factors which play a role in English and French, such as the degree of heaviness of the subject or the prototypicality of the subject in relation to the unergative verb (49). Active transitive verbs are also allowed in EP locative inversion by some speakers (50).

(49) a. ***Unaccusative verb of existence and appearance:*** Nesta região do mundo apareceram os primeiros seres humanos. / Dans cette région du globe sont apparus les premiers hommes. / In this area of the world appeared the first human beings.

b. ***Unaccusative verb of change of state:*** Na cozinha partiu-se um copo. / ??Dans la cuisine s'est brisé un verre. / ??In the kitchen broke a glass.

c. ***Redundant unergative:*** No aquário nadavam vários peixes coloridos. / Dans l'aquarium nageaient plusieurs poisons colorés. / In the tank swam many colourful fish.

d. ***Non-redundant unergative:*** Junto à nossa mesa vomitou um rapaz. / *À côté de notre table a vomi un garçon. / *Near our table vomited a boy.

(50) Neste hotel recebeu o rei os seus convidados. (Pereira, 1998: 3) / *Dans cet hôtel a reçu le roi ces invités. / *In this hotel welcomed the king his guests.

These differences between EP, on the one hand, and English and French, on the other, result mainly from the fact that locative inversion has different discourse functions in these languages. While, in English and French, locative inversion has the function of presenting a non-presupposed entity on a scene set by a stage topic, in EP, it is not restricted to this presentational function. It has a broader information-packaging function: that of placing the topic component of the sentence before its focus component. For this reason, unlike English and French (cf. chapters 4 and 5), EP allows locative inversion with verbs that are incompatible with a presentational function, such

as unaccusative verbs of change-of-state (49b), non-redundant unergative verbs (49d) and even active transitive verbs (50).

Obviously, the sentences (49b), (49d) and (50) are possible in EP not only because this language does not place any discourse constraints on the verb in overt locative inversion, but also because its syntax can generate those structures with unaccusative, unergative and transitive verbs. The grammaticality of XPVS orders with these types of verbs results from the following fact: unlike what happens, for example, in English (cf. chapter 4), in EP locative inversion, the lexical verb does not stay in the VP; it moves to a position in the IP domain, possibly to T (cf. Pereira, 1998; Sheehan, 2007).[102] The only constituent that stays *in situ* is the subject (Sheehan, 2007). Thanks to the movement of the verb to the IP domain, in EP, the subject can surface to the right of the verb regardless of whether it is base-generated in Spec, VP (as is the case with the subjects of unergative and transitive verbs) or in the object position (as is the case with the subjects of unaccusative verbs).[103]

Two pieces of evidence lend support to the proposal that, in EP locative inversion, the subject stays *in situ* while the verb moves out of the VP. First, as shown in (51), in this type of SVI, the verb obligatorily occurs to the left of the monosyllabic adverb *bem* 'well', whereas the subject surfaces to the right of this adverb, which marks the left edge of the VP, according to Costa (2004). Second, a floating quantifier like "both" can appear immediately before the subject it modifies, but not between the auxiliary and the participle (i.e., it does not "float") (52). If we assume with Doetjes's (1992) that floating quantifiers appear immediately to the left of every position occupied by the element it modifies in the course of the sentence's derivation, this fact can be seen as an indication that, in EP locative inversion, subjects do not leave their base-generated position.

(51) a. *Ao escritório **bem** chegaram todas as encomendas da Amazon.
in-the office well arrived all parcels from Amazon
b. Ao escritório chegaram **bem** todas as encomendas da Amazon.

[102] Over the past decades, different analyses of EP locative inversion have been proposed (cf. Ambar, 1992; Duarte, 1997; Pereira, 1998; Sheehan 2007).We will not review them here, since this would take us far afield and away from the primary focus of the present chapter.

[103] Recall that, in the case of English, as the verb does not move out of the VP, when the subject cannot be heavy-DP shifted to a right-adjoined position, the order XPVS can only be obtained with verbs whose sole argument is base-generated in a position to the right of the verb, i.e., the object position. As shown in chapter 4, the only verb class that behaves in this fashion is the class of unaccusative verbs.

in-the office arrived well all parcels from Amazon

c.*?Ao escritório chegaram todas as encomendas da Amazon **bem**.

in-the office arrived all parcels from Amazon well

(52) a. Ao escritório já tinham chegado **ambas** as encomendas.

in-the office already had arrived both the parcels

b. *Ao escritório já tinham **ambas** chegado as encomendas.

in-the office already had both arrived the parcels

c. As encomendas já tinham **ambas** chegado ao escritório.

the parcels already had both arrived in-the office

In brief, in EP, overt locative inversion is solely subject to the discourse constraints in (53), which also apply to English and French. Crucially, unlike these languages, EP allows overt locative inversion with all types of intransitive verbs and with transitive verbs (at least, in the grammars of some native speakers). This is mainly because, unlike its French and English counterparts, EP locative inversion is not restricted to a presentational function. It has the broader function of placing the topic component of the sentence before its focus component.

(53) ***Constraints on overt locative inversion***

a. The pre-verbal XP must be a stage topic.

b. The subject must be (part of) the focus of the sentence.

Given that, in EP, overt locative inversion is exclusively subject to discourse constraints, this structure may be seen as an instance of "free" inversion. Nevertheless, following standard practice, in the present thesis, I will only use the term "free inversion" to refer to bare inversion, i.e., SVI without any overt pre-verbal XP.

6.5. Subject-verb inversion in EP, French and English: Summarising the differences and similarities

In the light of what has been described in this and in previous chapters, it can be concluded that the languages on which this thesis focuses cluster into two groups with respect to SVI. On the one hand, we have English and French, which are both NNSLs and, as such, only permit SVI in a limited number of constructions, where the EPP is satisfied by an overt element, such as overt expletive-associate inversion and overt locative inversion. Crucially, these languages behave (for the most part) alike with

respect to these two constructions. On the other hand, we have EP, which is a consistent NSL, admits "free" inversion and displays a different behaviour from English and French regarding both locative inversion and expletive-associate inversion. The main differences and similarities among these languages with respect to "free" inversion (in narrow and sentence focus contexts), overt light locative inversion and overt light expletive-associate inversion – the three SVI structures which are considered in this thesis – are summarised in tables 6.1 to 6.3.

		English	***French***	***EP***
VS in narrow subject focus		✖ *Who arrived?* **Arrived João.* *JOÃO arrived.*	✖ *Qui est arrivé?* **Est arrivé Jean.* *C'est Jean (qui est arrive).*	✓ *Quem chegou?* *Chegou o João.* *#O João chegou*
	Covert locative inversion	✖ *What happened?* **Arrived João.* *João arrived.*	✖ *Qu'est-ce qui s'est passé?* ** Est arrivé Jean.* *Jean est arrivé.*	✓ *O que aconteceu?* *Chegou o João.* *O João chegou.*
VS in sentence focus	Covert expletive-associate inversion (see also table 6.3)	✖ *What happened?* **Appeared a large crack in the wall.* *There appeared a large crack in the wall.* *A large crack appeared in the wall.*	✖ *Qu'est-ce qui s'est passé?* ** Est apparu une large fissure sur le mur.* *Il est apparu une large fissure sur le mur.* *Une large fissure est apparue sur le mur.*	✓ *O que aconteceu?* *Apareceu uma grande fenda na parede.* **Ele apareceu uma grande fissura na parede.* *Uma grande fissura apareceu na parede.*

Reasons underlying the differences between EP and English + French:

(i) *VS in narrow subject focus*: The availability of VS in this context depends upon the availability of null referential subjects as possible EPP-satisfiers, which, in turn, depends upon the presence of an uninterpretable D-feature on I. Only EP allows referential null subjects.

(ii) *VS in sentence focus*: The availability of VS in this context depends upon the availability of null locatives (in the case of covert locative inversion) and null expletives (in the case of covert expletive-associate inversion) as possible EPP-satisfiers, which, in turn, depends upon the negative setting of a PF-visibility condition on Spec, IP. Only EP allows null locatives and expletives.

Table 6.1. *"Free" inversion in English, French and EP*

Pre-verbal XP & post-verbal subject	***Verb***
French = English = EP	**French ≈ English ≠ EP**
✓ Stage topic XP + subject (part of the) focus *Mary owns a marble coffee table. On the table is a crystal vase.* // *Marie possède une table basse en marbre. Sur la table se trouve un vase de cristal.* // *A Maria tem uma mesa de jantar em mármore. Em cima da mesa está uma jarra de cristal.* × Locative focus + subject topic *Mary owns a beautiful crystal vase. # On a table is the crystal vase.* // *Marie possède un grand vase de cristal. #Sur une table se trouve le vase.* // *A Maria tem uma grande jarra de cristal. #Em cima de uma mesa está a jarra.* × Stage topic XP + subject topic *What does the former Brazilian president do in the slum? #In the slum lives the former Brazilian president.* // *Qu'est-ce que fait l'ex-président brésilien dans le bidonville? #Dans le bidonville habite l'ex-président brésilien.* // *O que faz o ex-presidente brasileiro no bairro de lata? #No bairro de lata vive o ex-presidente brasileiro.* × All focus *João, have you heard this? #In a slum lives a former Brazilian president.* // *Jean, as-tu écouté ça? #Dans un bidonville habite un ex-président brésilien.* // *João, ouviste isto? #Num bairro de lata vive um ex-presidente brasileiro.*	---ENGLISH & FRENCH--- ✓Unaccusatives of existence and appearance: *In this part of the world appeared the first men.* // *Dans cette région du monde sont apparus les premiers hommes.* ✓Redundant unergatives (in relation to S): *On her finger glittered a diamond ring.* // *À son doigt brillait un anneau de diamants.* ×Unaccusatives of change of state: ??*In the kitchen broke a glass.* // ??*Dans la cuisine s'est brisé un verre.* ×Non-redundant unergatives: **Near our table vomited a boy.* // **À côté de notre table a vomi un garçon.* **Difference:** French allows locative inversion with the unergative verbs which are only redundant in relation to the locative, while English does not. ??*In this office work four people* || *Dans ce bureau travaillent quatre personnes.* **---**EP**---** ✓Unaccusatives of existence and appearance: *Nesta região do mundo apareceram os primeiros homens.* ✓Unaccusatives of change of state: *Na cozinha partiu-se um copo.* ✓Redundant unergatives (in relation to S): *No seu dedo brilhava um anel de diamantes.* ✓Redundant unergatives (in relation to Loc): *Neste escritório trabalham quatro pessoas.* ✓Non-redundant unergatives: *Junto à nossa mesa vomitou um rapaz.*
Reasons underlying the differences between EP and English + French: EP locative inversion is compatible with all types of verbs, because, unlike its French and English counterparts, it is not restricted to the function of presenting a non-presupposed referent on a scene. It has the broader function of placing the topic component of the sentence before its focus component. For this reason, EP locative inversion does not place any discourse constraints on the verb. French and English locative inversion, on the other hand, require the verb to be compatible with a presentational function, which, in practice, means that the verbs must add little or no information beyond the existence/appearance of the subject.	

Table 6.2. *Main properties of overt light locative inversion in English, French and EP*

Expletive	*Verb*	*Subject*
French = English ≠ EP ENGLISH & FRENCH: Overt expletive *There / *it appeared a man on the stage. // Il est apparu un homme sur la scène.* EP: Null expletive *Apareceu um homem no palco.* **Ele apareceu um homem no palco*	**French ≈ English ≠ EP** ---ENGLISH & FRENCH--- ✓Unaccusatives of existence and appearance: *There appeared a clown on the stage. // Il est apparu un clown sur la scène.* ✓Redundant unergatives (in relation to S): *There barks a dog in the garden. // Il aboie un chien au loin.* ×Unaccusatives of change of state: ??*There broke a glass in the kitchen* // ??*Il s'est brisé un verre dans la cuisine.* ×Non-redundant unergatives: **There vomited a boy near our table. // *Il a vomi un garçon à côté de notre table.* **Difference:** French allows inversion with the unergative verbs which are only redundant in relation to the locative, while English does not. *??There work two hundred people in this factory || Il travaille deux cent personnes dans cette usine.* ---EP--- ✓Unaccusatives of existence and appearance: *Apareceu um palhaço no palco.* ✓Unaccusatives of change of state: *Partiu-se um copo na cozinha.* ✓Redundant unergatives (in relation to S): *Ladra um cão ao longe.* ✓Redundant unergatives (in relation to Loc): *Trabalham duzentas pessoas nesta fábrica.* ✓Non-redundant unergatives: *Vomitou um rapaz junto à nossa mesa.*	**French = English ≈ EP** ---ENGLISH & FRENCH--- The subject must be interpreted as focus together with the verb. ✓ All focus: *What happened? There appeared a man on the stage. // Il est apparu un homme sur la scène.* ×Narrow subject focus: *Who appeared on the stage? #There appeared a man on the stage. // #Il est apparu un homme sur la scène.* × Predicate focus: *What did a man do? #There appeared a man on the stage. // #Il est apparu un homme sur la scène.* ---EP--- ✓ All focus: *O que aconteceu? Apareceu um homem no palco.* ✓ Narrow subject focus: SVI is always possible in EP in this context but it does not involve a null expletive. × Predicate focus: *O que fez um homem? #Apareceu um homem no palco.*

Reasons underlying the differences between EP and English + French:

(i) *Expletive*: As noted in table 6.1., the availability of overt expletives depends upon the positive setting of a PF-visibility condition on Spec, IP. French and English have a positive setting for this micro-parameter and, as a result, require Spec, IP to be spelled out at PF. EP, in contrast, has a negative setting for this micro-parameter.

(ii) *Verb:* EP (covert) expletive-associate inversion is compatible with all types of verbs, because, unlike its French and English counterparts, it is not restricted to the function of presenting a non-presupposed referent (on a scene). It has the broader function of conveying thetic judgements. For this reason, in EP expletive-associate inversion, there are no discourse constraints on the verb. In French and English expletive-associate inversion, on the other hand, the verb is required to be compatible with a presentational function, which, in practice, means that the verb must add little or no information beyond the appearance of the subject.

Table 6.3. *Main properties of (overt and covert) light expletive-associate inversion in English, French and EP*

As tables 6.1 to 6.3 show, despite having distinct degrees of word order flexibility, English, French and EP have a key characteristic in common: in the three languages, SVI structures involve the interface between (lexicon-)syntax and discourse.

They are therefore appropriate constructions for investigating the process of L2 acquisition at interfaces.

PART II:

THE L2 ACQUISITION AND TEACHING OF SUBJECT-VERB INVERSION AND BEYOND

Chapter 7

Previous research on L2 acquisition at the interfaces: Subject-verb inversion, pronominal subjects and other interface structures

7.1. Introduction

Over the past decade, the interface between syntax and other domains has become a key area of interest in GenSLA. According to many authors, most notably Sorace and colleagues (e.g., Belletti et al., 2007; Sorace, 2003, 2005, 2011c, 2016; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006; Wilson, Sorace, & Keller, 2009; among others), the properties that involve the interface between syntax and a grammar-external domain like discourse are more problematic for L2ers than those which involve grammar-internal interfaces and "narrow" syntax. The syntax-discourse interface is claimed to be a problem area even for the minority of L2ers who attain a competence that is, in most respects, indistinguishable from that of native speakers – near-native speakers. The evidence that supports these claims predominantly comes from studies on the L2 acquisition of pronominal subjects and SVI in consistent NSLs (henceforth NSLs), which are two phenomena at the syntax-discourse interface (cf. part I).[104] The studies which investigated other language combinations and other interface phenomena have, however, produced conflicting results regarding the validity of these claims. Both groups of studies will be summarised and discussed in the present chapter, whose purpose is twofold: (i) to critically review recent research on the end state of L2 acquisition[105] at the syntax-discourse interface and at grammar-internal interfaces, and

[104] Recall that, in NSLs, like Italian and EP, discourse plays a role in pronoun choice. Null pronominal subjects are strongly preferred when there is no change in topic, while overt subjects imply a change of topic (cf. chapter 3, section 3.4). In NSLs, the placement of lexical subjects is also governed by discourse factors. Subjects typically occur post-verbally when they are interpreted as narrow focus. VS orders are moreover admitted in sentence focus contexts with a limited set of intransitive verbs like *telefonar* 'to telephone' and *chegar* 'to arrive' (cf. chapter 6).

[105] In the literature, the term "end state" refers to the outcome of L2 acquisition. It is often used in two senses: (i) to refer to the non-native final state of the interlanguage grammars that permanently stabilised before reaching the highest possible level of proficiency in the L2 (e.g., Lardiere, 2007), and (ii) to refer to the best attainable final state of L2 acquisition (e.g., Sorace, 2005). In the present thesis, I use the term "end state" in the latter sense. As I assume with Sorace (2003, 2005) that the furthest attainable

(ii) to identify the questions that are still unresolved in the literature and need to be addressed in future research.

The chapter is structured as follows: section 7.2 presents a hypothesis that has influenced most studies on the end state of L2 acquisition at the interfaces since the beginning of the 21st century − the Interface Hypothesis (IH) (Sorace, 2011c; Sorace & Filiaci, 2006). In section 7.3, I summarise and discuss the most relevant findings of previous studies on the L2 acquisition of SVI and pronominal subjects in NSLs and NNSLs. Section 7.4 provides an overview of the research that has been carried out in recent years on the L2 acquisition of other structures at the syntax-discourse interface. In section 7.5, I summarise the key findings of GenSLA research on three interfaces which are internal to the language faculty – the syntax-semantics interface, the syntax-morphology interface and the lexicon-syntax interface –, in order to determine whether they are less problematic for L2ers than the syntax-discourse interface, as proposed in some recent work on linguistic interfaces (e.g., Tsimpli & Sorace, 2006; Sorace & Serratrice, 2009). Section 7.6 identifies limitations and unresolved questions in previous research on the end state of L2 acquisition at the interfaces. Finally, the main conclusions of the chapter are presented in section 7.7.

7.2. The Interface Hypothesis

Much of the recent research into the end state of L2 acquisition at the interfaces has been influenced by a hypothesis formulated by Sorace and Filiaci (2006) on the basis of evidence from the acquisition of pronominal subjects in near-native Italian – the IH. Originally, this hypothesis proposed that "narrow" syntactic properties are fully acquirable in an L2, whereas the properties which involve the interface between syntax and other domains are vulnerable to permanent fossilisation (Sorace & Filiaci, 2006). In its most recent version, this hypothesis specifies that properties involving internal interfaces (i.e., interfaces which link different modules within the language faculty), such as the syntax-semantics interface, are less likely to be problematic at the end state of L2 acquisition than properties at external interfaces (i.e., interfaces which connect the language faculty to external domains), such as the syntax-discourse interface (Sorace,

competence level in an L2 is the near-native competence, I use the terms "end state" and "near native" interchangeably.

2011a, 2011c; Sorace & Serratrice, 2009; Tsimpli & Sorace, 2006).[106] The latter type of interface is predicted to necessarily be a locus of residual optionality (i.e., alternation between target and non-target forms or interpretations) at the near-native level of L2 acquisition. Given that the near-native level is the best attainable competence level in an L2 (Sorace, 2003, 2005), this amounts to saying that the IH predicts the problems at the syntax-discourse interface to be permanent and insurmountable.

In recent years, there has been a great deal of debate in the literature about whether or not the developmental stages of L2 acquisition fall outside the scope of the IH. On the one hand, the proponents of the IH claim that this hypothesis is an account of non-target patterns at the highest possible level of L2 ultimate attainment[107], which is not intended to apply to developmental stages (Sorace, 2011c), although they concede that it may indirectly make predictions about them (Sorace, 2012). On the other hand, some researchers, most notably White (2011a) and Lardiere (2011), argue that the IH does make predictions about non-near-native L2ers that can and should be tested. From their point of view, if interface properties are residually difficult for the most proficient near-native speakers, it is reasonable to expect L2ers at lower stages of acquisition to have similar or even more pronounced problems concerning those properties. After all, as White (2011a: 109) points out, "it would be strange if interface problems experienced by end state L2 speakers emerged out of the blue".

The main problem of extending the IH to developmental stages is that the L2ers who are still developing their knowledge of the target language may exhibit divergence not only at external interfaces, but also in other linguistic domains (e.g., narrow syntax), which may mask the effects predicted by this hypothesis. As a consequence, if data collected from non-near-native L2ers turn out not to conform to the IH, this does not necessarily entail that the hypothesis is wrong overall. For example, if it is found that intermediate or advanced grammars exhibit problems with respect to "narrow" syntax, it can always be argued that, given more input or more time, these interlanguage grammars may in due course converge with the target language. Hence, in the interpretation of data from developmental stages, one must always bear in mind that, as Sorace (2012: 213) stresses, "the point of the IH is that unlike many of the

[106] For further details on linguistic interfaces, cf. chapter 1.
[107] In GenSLA research, "ultimate attainment" refers to the outcome or end point of acquisition, and is used interchangeably with the term "end state".

developmental problems that are reduced or eliminated as L2 proficiency grows, performance at the syntax-pragmatics interface may remain permanently unstable".

In its current form, the IH is intended to apply not only to near-native L2ers, but also to other bilingual populations, namely early bilinguals, i.e., speakers who started learning two or more languages either from birth or in early childhood, and L1 attriters, i.e., speakers who are in a situation of attrition due to prolonged exposure to an L2 (cf. Sorace, 2011c). This hypothesis predicts that, as is the case with L2 acquisition, both the L1 attrition and the bilingual L1 acquisition of properties at the syntax-discourse/pragmatics interface will inevitably result in a steady state "in which the target option is strongly but not categorically preferred and the nontarget option surfaces in some circumstances" (Sorace, 2003: 140). The IH, therefore, provides a unifying model for the study of permanent divergence in bilingualism.

The explanations proposed by this hypothesis for bilingual speakers'[108] difficulties at the syntax-discourse/pragmatics interface have changed over time as new results have become available. In some of the early studies conducted within the IH framework (e.g., Belletti et al., 2007; Serratrice, Sorace, & Paoli, 2004; Tsimpli, Sorace, Heycock, & Filiaci, 2004), these problems were attributed to cross-linguistic influence. The authors who adopted this view assumed that, in near-native L2 acquisition, L1 attrition and bilingual L1 acquisition, it was always the less restrictive language that influenced the representations of the more complex language, and not vice-versa. So, for example, in the case of the production and interpretation of pronominal subjects, they would expect the L1 to influence the representations of the L2 in L1 English - L2 Italian, but not in L1 Italian - L2 English,[109] as English has a less complex pronominal system than Italian, where pronominal choice is dependent on discourse constraints such as topic shift (cf. chapter 3, section 3.4). This influence would take the form of a neutralisation of the L2 distinctions between null and overt subject pronouns towards the less restrictive and, hence, more economical L1 system, where pronominal subjects are overt in [+topic shift] and [- topic shift] contexts.

[108] In the present thesis, I use the term "bilingual speaker" in the broad sense of speaker who is proficient in more than one language. It is an umbrella term that includes L2ers, L1 attriters and early bilinguals.
[109] English has a less complex pronominal system than Italian, where pronominal choice is dependent on discourse constraints such as topic shift. The same constraints also apply to EP. For further information, see section 3.4.

In recent years, the idea that language interference is the (only) cause of optionality at the syntax-discourse/pragmatics interface has been completely abandoned by the proponents of the IH. This is mainly because a number of studies found that, at least in the case of the production and interpretation of pronominal subjects in NSLs, highly advanced adult L2ers and simultaneous bilinguals exhibit problems at the syntax-discourse interface even when their (other) L1 is similar to the target language in all the relevant respects (e.g., Lozano, 2006a; Margaza & Bel, 2006; Mendes & Iribarren, 2007; Sorace, Serratrice, Filiaci, & Baldo, 2009). These findings were interpreted by Sorace and colleagues (cf. Sorace, 2011c) as robust evidence that cross-linguistic influence could not be the (only) root of the problem and that another explanation would have to be found.

At present, the IH appeals to processing-related factors to explain why the syntax-discourse/pragmatics interface is a locus of optionality in different areas of bilingual language development (Sorace, 2011a, 2011c, 2012). This hypothesis proposes that optionality arises because bilingual speakers are less than optimally efficient at integrating syntactic and grammar-external information in real-time language use. According to Sorace (2011a, 2011c, 2016), the underlying cause of this inefficiency is bilingualism itself and, more specifically, the well-attested fact that the speakers who have more than one grammar represented in the mind need to constantly inhibit one language when using the other (cf. Dijkstra & Van Heuven, 2002; Green, 1998; among others). Sorace proposes slightly different (but not mutually exclusive) accounts for explaining the link between bilinguals' constant need to inhibit the unwanted language and their reduced efficiency in the integration of information from multiple domains.

According to one of these accounts, which I label the "competition for resources account", the integration of syntactic and discourse/pragmatic information may partly draw on the same pool of cognitive resources used to keep the two languages separate (Sorace, 2011a, 2011c), which creates competition for resources. As the inhibition of the unwanted language absorbs many cognitive resources, the demands imposed by the task of integrating syntactic and contextual information in real time, which is a consuming task in terms of cognitive resources, may (inconsistently) exceed the bilingual speaker's available resources, leading to optionality in performance.

According to an alternative account, which I label the "trade-off account", bilingual speakers' inefficiency in integration may be related to the existence of a trade-off relation between two executive functions[110] − inhibitory control and the ability to integrate/update, which requires disengagement of inhibition (cf. Sorace, 2016). More specifically, it is hypothesised that the bilingual speaker's constant experience of having two languages simultaneously active and inhibiting one when the other is used confers advantages in terms of inhibitory control,[111] but disadvantages in integration/updating, because increased inhibitory control and less efficient integration/updating ability are in a trade-off relationship. This would explain why bilingual speakers exhibit optionality at the syntax-discourse/pragmatics interface.

The IH resorts to processing factors not only to account for the optionality observed at external interfaces, but also to explain why these interfaces are more problematic for bilingual speakers than internal interfaces. According to this hypothesis, the difference between the two types of interfaces results from the fact that the integration of syntactic information with information from external domains is subject to higher processing and cognitive demands than the integration of information from different modules internal to the language faculty (cf., in particular, Sorace & Serratrice, 2009).[112] In other words, the difference between internal and external interfaces reduces to one single factor: processing cost.

To summarise, the current version of the IH predicts that the primary locus of permanent optionality in L2 acquisition, L1 attrition and bilingual L1 acquisition is the interface between syntax and external domains, like discourse and pragmatics. In its present form, the IH does not claim that the properties which involve this type of interface are completely unacquirable. Rather, it claims that, even if bilingual speakers' underlying linguistic representations are native-like, they will display residual, but permanent, optionality in performance, because they are not consistently efficient at integrating syntactic and discourse-pragmatic information in real-time language use as a by-product of bilingualism. Since the IH explains the problems at external interfaces as

[110] Executive function refers to a set of cognitive processes that underlie goal-directed behaviours, including inhibitory control (i.e., ability to inhibit irrelevant information), shifting (i.e., ability to switch flexibly between tasks or mental sets), and updating (i.e., ability to constantly monitor and rapidly add/delete working-memory contents) (see, for e.g., Miyake & Friedman, 2012).

[111] It is well-attested in the literature that child and adult bilinguals have an advantage in inhibitory control (Bialystok, 2009; Bialystok & Martin, 2004; Vega-Mendoza, West, Sorace, & Bak, 2015).

[112] Underlying this view is the assumption that the language faculty is optimally designed so that information can "circulate" across its modules with minimal burden on processing and memory resources.

cognitive consequences of bilingualism, it predicts that some level of optionality will arise with respect to these interfaces, irrespective of L1–L2 pairings.[113] Crucially, the syntax proper is assumed to remain unaffected by the problems at external interfaces.

7.3. Research findings on the L2 acquisition of pre- and post-verbal subjects

SVI and pronominal subjects are the best researched interface phenomena in the domain of GenSLA. Initially, they were investigated in the context of studies whose focus was on the development of the (morpho)syntactic properties associated with the NSP (e.g., García Mayo, 1998; Hilles, 1986; Liceras, 1989; Tsimpli & Roussou, 1991; White, 1985; among others).[114] The purpose of these early studies was twofold: (i) to determine whether the L1 setting for the NSP is carried over to the L2, and (ii) to examine whether the properties associated with this parameter develop in a cluster-like way, i.e., whether the acquisition of one property automatically triggers the acquisition of the other properties. However, these studies did not control for a variable that may have confounded their results: discourse factors. Given that, in recent years, researchers' focus has shifted to the analysis of the interaction between syntax and other domains, the more recent work on the L2 acquisition of SVI and pronominal subjects considers not only morphosyntactic aspects, but also discourse factors. Both the early and the more recent GenSLA research on SVI and pronominal subjects is summarised and discussed in the present section, which is divided into two parts: the first part (sub-section 7.3.1) focuses on the acquisition of NSLs, while the second (sub-section 7.3.2) concentrates on the acquisition of NNSLs.

7.3.1. *L2 acquisition of pre- and post-verbal subjects in NSLs*

Since the second half of the 1980s, the L2 acquisition of pre- and post-verbal subjects in NSLs, such as Spanish, Italian and EP, has been investigated by a large number of studies. Their results have consistently shown that the L2ers who are native speakers of NNSLs, like English and French, are able to produce and interpret null (referential and expletive) subjects from the very early stages of acquisition, but only start using/accepting "free" SVI later, at around an intermediate stage (Al-Kasey & Pérez-Leroux, 1998; Isabelli, 2004; Liceras, 1989; Lozano, 2002; Pérez-Leroux &

[113] Note that the occurrence of L1 influence effects in addition to processing effects is not ruled out by this hypothesis.
[114] For details on the NSP, see chapter 3.

Glass, 1999; Phinney, 1987; Roebuck, Martínez-Arbelaiz, & Pérez-Silva, 1999; Rothman & Iverson, 2007a; 2007b; among others). Even though "free" SVI and pronominal subjects develop at different rates in interlanguage grammars, their route of development appears to be identical: in both cases (morpho)syntactic properties are acquired before discourse properties. According to various recent studies (e.g., Belletti et al., 2007; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006), which used the acquisition of subjects in NSLs as a testing ground for the IH, the discourse properties that regulate the distribution of pronominal subjects and the placement of lexical subjects in NSLs tend to generate problems even at the most advanced level of proficiency an L2er can attain – the near-native level.

The study conducted by Sorace and Filiaci (2006) on the interpretation of pronominal subjects in near-native Italian was one of the first to show that L2ers exhibit permanent difficulties with respect to the discourse conditions which govern the distribution of null and overt pronominal subjects in NSLs. In this study, Sorace and Filiaci tested a group of near-native English speakers of Italian and a group of monolingual Italian speakers on the interpretation of null and overt pronominal subjects in intrasentential contexts by means of a picture verification task. Results revealed that near-native speakers behave differently from monolingual speakers in the interpretation of overt subject pronouns in Italian. As illustrated in (1), the former group of speakers often interprets the overt subject pronoun as referring to the lexical subject of the matrix clause, whereas the latter group prefers to interpret the overt subject pronoun as coreferential with a non-subject antecedent (the complement or an extra-linguistic referent). In contrast, in the interpretation of null subject pronouns, both groups display the same pattern of preferences. They typically interpret null pronominal subjects as referring to the subject antecedent, as in (2).

(1) a. ***Near-native Italian*:**

La mamma$_i$ dà un bacio alla figlia mentre **lei$_i$** si mette il cappotto.

the mother$_i$ gives a kiss to-the daughter while she$_i$ puts-on the coat

b. ***Native Italian*:**

La mamma dà un bacio al**la figlia$_i$** mentre **lei$_{i/k}$** si mette il cappotto.

the mother gives a kiss to the daughter$_i$ while she$_{i/k}$ puts-on the coat

(sentence from Sorace & Filiaci, 2006: 352)

(2) ***Native and near-native Italian:***

La mamma$_i$ dà un bacio alla figlia mentre ***pro*$_i$** si mette il cappotto.

the mother$_i$ gives a kiss to-the daughter while *pro*$_i$ puts-on the coat

(sentence from Sorace & Filiaci, 2006: 352)

Belletti, Bennati and Sorace's (2007) subsequent work on the production and interpretation of null and overt subjects in L1 English - L2 Italian produced similar results. They found that near-native speakers overextend the scope of the overt pronoun to contexts where a null subject would be expected not only in interpretation, but also in production. As exemplified in (3), in production, near-native speakers often use overt pronominal subjects in the absence of topic shift, while monolingual speakers exhibit a strong preference for null subjects in this context. Errors involving the production of null pronouns in inappropriate discourse contexts like (4) are, however, virtually unattested in Belletti, Bennati and Sorace's (2007) study.

(3) Perchè Maria è arrivata così tardi?

why Maria is arrived so late

a. ***Near-native Italian*:**

Perchè **lei** si era addormentata.

because she herself was asleep

b. ***Native Italian*:**

Perchè ***pro*** si era addormentata.

because *pro* herself was asleep

(Sorace, 2016: 352)

(4) ***Native and near-native Italian***

A: Perchè Maria ha chiamato **Paolo**$_i$?

why Maria has called Paolo

B: *Perchè ***pro***$_i$ voleva vederla.

because *pro* wanted to see-her

(Sorace, 2016: 352)

Taken together, these results from Sorace and colleagues' studies indicate that there is an asymmetry between overt and null pronominal subjects in end-state grammars: near-native speakers overextend overt subject pronouns to contexts which would require null subjects in native Italian, but they do not do the reverse, i.e., they do not extend null subjects to inappropriate contexts. When they use null subjects, they use them in a target-like fashion. This pattern of behaviour is regarded by Sorace and

colleagues (cf. Belletti et al., 2007; Sorace, 2005, 2011c; Sorace & Filiaci, 2006) as evidence that near-native speakers have acquired the syntactic properties of null subjects and exhibit non-convergent behaviour only at the syntax-discourse interface. On the one hand, the near-native speakers' target-like performance with respect to the production and interpretation of null subjects indicates that they have a null subject grammar. On the other hand, the fact that these speakers produce overt subjects in the absence of a change of topic, and interpret overt subject pronouns as coreferential with a pragmatically inappropriate (topic) subject antecedent suggests that it is at the interface between syntax and discourse that they manifest persistent difficulties. Thus, these results lend support to the IH.

The overextension of overt subject pronouns reported in Sorace and colleagues' studies on L1 English - L2 Italian has been found in other L1 NNSL - L2 NSL pairings[115] (e.g., L1 German - L2 EP as in Madeira, Xavier, & Crispim, 2009; and L1 Russian - L2 Greek as in Tsimpli & Sorace, 2006), as well as in language combinations where both the L1 and the L2 are NSLs (e.g., L1 Italian - L2 Spanish as in Bini, 1993; L1 Greek - L2 Spanish as in Lozano, 2008a; Margaza & Bel, 2006; and L1 Spanish - L2 EP as in Mendes & Iribarren, 2007), which suggests that this phenomenon does not (exclusively) result from L1 influence. Besides L2ers, there are other bilingual populations who have been shown to diverge from monolingual speakers with regard to the interpretation and production of overt subjects, namely L1 attriters (cf. Chamorro, Sorace, & Sturt, 2016; Tsimpli et al., 2004) and simultaneous bilingual children (cf. Paradis & Navarro, 2003; Serratrice et al., 2004; Sorace et al., 2009). Together, these findings have been interpreted by the proponents of the IH (see in particular Sorace, 2011c, 2016) as robust evidence in favour of the view that the syntax-discourse interface is permanently problematic for bilingual speakers, in general, and L2ers, in particular, due to processing inefficiencies associated with the bilingual condition.

Many of the studies which investigated the L2 acquisition of the syntactic and discourse properties of "free" SVI in NSLs have similarly produced results in line with

[115] It should, nevertheless, be noted that not all studies carried out to date have corroborated the finding that L2ers overextend the scope of the overt subject pronoun to contexts in which a null pronoun would be expected, but not vice versa. Montrul and Rodríguez-Louro (2006) and Rothman (2007, 2009), for example, observe that L2ers of Spanish overextend both overt and null subject pronouns to inappropriate discourse contexts.

the IH.[116] According to Belletti, Bennati and Sorace (2007), this hypothesis predicts that highly advanced L2ers should behave native-like with respect to "free" inversion in sentence focus contexts, but crucially not with respect to "free" inversion in narrow focus contexts. Underlying this prediction is the assumption that each of these subtypes of "free" inversion involves a different kind of interface. According to Belletti and colleagues, the VS orders which occur in narrow focus contexts involve the syntax-discourse interface, because here the subject occupies the post-verbal position due to a discourse-related property: focus right alignment. In contrast, in the VS structures which occur in sentence focus contexts, the subject does not occupy the post-verbal position because of a discourse-related property, but rather because of a lexical-syntactic property: the subject is the argument of a verb that optionally selects LOC, which is a possible EPP-satisfier (for details, see chapter 6). For this reason, Belletti, Bennati and Sorace assume that, in sentence focus contexts, SVI involves the lexicon-syntax interface and, crucially, not the syntax-discourse interface. Given that the lexicon-syntax interface is internal to the language faculty, under the current version of the IH, it is not expected to generate problems at the end state of L2 acquisition. Only external interfaces, such as the syntax-discourse interface, are predicted to be problematic for near-native speakers (cf. section 7.2).

The asymmetry between narrow and sentence focus contexts predicted by the IH is attested in various experimental studies on the acquisition of SV-VS contrasts in NSLs. Lozano (2006a, 2006b, 2014), for instance, found that advanced English and Greek speakers of Spanish[117] exhibit native-like preferences with regard to SV-VS contrasts in sentence focus contexts, but diverge from monolingual speakers of Spanish in narrow focus contexts. As exemplified in (5) and (6), in the latter discourse contexts, the Spanish L2ers tested by Lozano accept both VS and SV orders, while the Spanish native speakers whom he used as controls display a strong preference for VS orders. In sentence focus contexts, on the other hand, both the L2ers and the native speakers of

[116] Recall that, in NSLs, like Italian, EP and Spanish, SVI typically occurs when the subject is interpreted as narrow focus, independently of the type of verb. In sentence focus contexts, only a limited set of intransitive verbs like *telefonar* 'to telephone' and *chegar* 'to arrive' admit SVI. For further details, see chapter 6.

[117] In sentence focus contexts, Greek behaves like Spanish in that it admits VS with most unaccusatives, but not with most unergative verbs. In narrow focus contexts, however, Greek differs from Spanish in that it requires SV orders with both verb types, while Spanish requires VS orders. English requires SV orders in both sentence and narrow focus contexts (for further details, cf. Lozano, 2006a, 2006b).

Spanish significantly prefer VS to SV with unaccusative verbs and SV to VS with unergatives (7).

(5) A: ¿Quién llegó?
who arrived

B: a. Llegó la policía. **(✓Advanced Spanish / ✓Native Spanish)**
arrived the police

b. La policía llegó. **(✓Advanced Spanish / #Native Spanish)**
the police arrived

(6) A: ¿Quién gritó?
who screamed

B: a. Gritó una mujer. **(✓Advanced Spanish / ✓Native Spanish)**
screamed a woman

b. Una mujer gritó. **(✓Advanced Spanish / #Native Spanish)**
a woman screamed

(7) ***Native and advanced Spanish:***

A: ¿Qué pasó? B: Llegó la policía. / ??Gritó una mujer.
what happened arrived the police screamed a woman

Belletti, Bennati and Sorace's (2007) experiments on the acquisition of SV-VS contrasts in near-native Italian yielded similar results. Like Lozano's participants, the near-native English speakers of Italian tested by Belletti and colleagues behave native-like in sentence focus contexts, but not in narrow focus contexts. In the latter context, these near-native speakers display a significantly higher preference for SV orders than monolingual speakers, regardless of the class to which the verb belongs. As these near-native speakers simultaneously display native-like behaviour with respect to null subjects, which is the property on which the formal licensing of "free" SVI depends (cf. chapter 3), Belletti and colleagues conclude that they have reset the NSP to the Italian value and that their overuse of SV orders in narrow focus contexts cannot stem from problems in the formal licensing of SVI. Rather, it must result from problems at the interface between syntax and discourse. Taken together, Lozano's (2006a, 2006b, 2014) and Belletti, Bennati and Sorace's (2007) findings suggest that L2ers manifest permanent difficulties exclusively with respect to the properties of SVI which involve the interface between syntax and discourse, just as predicted by the IH.

Even though many of the studies which investigated the L2 acquisition of SV-VS contrasts in NSLs lend support to the IH (Bell, 2006, 2009; Belletti et al., 2007; Belletti & Leonini, 2004; Lozano, 2003, 2006a, 2006b, 2014; Madeira et al., 2009; among others), some of them produced results that do not seem to be in line with the predictions of this hypothesis. This is the case of Hertel (2003), Domínguez (2013) and Domínguez and Arche (2014). Hertel's (2003) work, for example, shows that advanced English speakers of Spanish consistently use SVI in contexts where the subject receives narrow focus in Spanish. This result is unexpected under the IH in that it suggests that the properties at the syntax-discourse interface are not necessarily problematic for L2ers. The results obtained by Domínguez and Arche (2014) point in a similar direction. These authors investigated the development of SVI and clitic left dislocation − a construction at the syntax-discourse interface where a presupposed object is left-dislocated and the subject occurs post-verbally when it receives narrow focus (8) − in L1 English - L2 Spanish. Their results indicated that, at an advanced level, English speakers of Spanish correctly prefer VS over SV in clitic left dislocation (with focused subjects) and in unaccusative structures (independently of the discourse context). Nevertheless, these speakers display a pattern of optionality with regard to unergative verbs in both sentence focus and narrow focus contexts, which corroborates previous findings from Domínguez (2013) that suggested that Spanish L2ers tend to overuse VS with unergative verbs.

(8) A: Who has scored the goal?

B: a. [El gol]$_i$, lo$_i$ ha marcado Villa.
the goal it has scored Villa

b.*[El gol]$_i$, Villa lo$_i$ ha marcado.
the goal Villa it has scored

(Domínguez & Arche, 2014: 245)

Domínguez and Arche argue that their findings are not consistent with the predictions of the IH for two reasons. On the one hand, the fact that L2ers perform native-like with respect to clitic left dislocation and unaccusative structures in narrow focus contexts shows that, contrary to what the IH predicts, the properties which are situated at the syntax-discourse interface are not necessarily problematic at the end state of L2 acquisition. On the other hand, the fact that advanced L2ers overgeneralise VS to unergative structures in sentence focus contexts, where the position of the subject is

determined by lexical-syntactic factors and no additional discourse-pragmatic constraints apply (e.g., constraints on focus marking), indicates that the distribution of VS and SV orders in sentence focus contexts is a locus of optionality in advanced Spanish, which, according to Domínguez and Arche, runs counter to the predictions of the IH.

The latter claim is, however, disputable. As previously noted (cf. section 7.2), the IH is an account of non-target patterns at the end state of L2 acquisition. The only prediction that this hypothesis makes about structures at the lexicon-syntax interface, such as "free" inversion in all-focus contexts, is that they are unlikely to be a source of permanent, insurmountable problems in L2 acquisition. As neither Domínguez and Arche nor any of the other authors who report that VS is overused in sentence focus contexts tested speakers with the best attainable competence level in L2 Spanish, the near-native level, there are no solid grounds for claiming that the lexical-syntactic problems that were found in advanced interlanguages are permanent. These problems may eventually disappear at a near-native level. For this reason, the finding that advanced L2ers of Spanish overuse VS orders with unergative verbs in sentence focus contexts in itself is not inconsistent with the IH. Only the finding that advanced L2ers perform native-like with respect to structures at the syntax-discourse interface, such as clitic left dislocation, is unexpected under this hypothesis. This is because there is *a priori* no reason to assume that what is unproblematic at an advanced level may become problematic at a near-native level.

As is the case with the studies which focus on the development of "free" SVI, those which concentrate on the L2 acquisition of pronominal subjects in NSLs do not always corroborate the predictions of the IH. In a study on the interpretative preferences of elementary and advanced L2ers of EP regarding pronominal subjects, Madeira, Xavier and Crispim (2012), for example, show that Italian speakers exhibit native-like antecedent assignment preferences for null and overt subjects in EP. Chinese speakers of EP, on the contrary, behave like the near-native speakers of Italian tested by Sorace and Filiaci (2006), i.e., they exhibit problems in the interpretation of overt pronominal subjects, but no difficulties regarding null subjects. While the Chinese speakers' results are expected under the IH, those of the Italian native speakers are not. This is because the current version of the IH predicts that the integration of syntactic and discourse

information should cause difficulties to L2ers even in language pairings where the L1 is similar to the L2, such as L1 Italian - L2 EP (cf. section 7.2).

Like Madeira, Xavier and Crispim (2012), Rothman (2009) demonstrates that the distribution of pronominal subjects is not necessarily problematic for L2ers of NSLs. In this study, he tested intermediate and advanced English speakers of Spanish on their knowledge of the syntactic and discourse properties of pronominal subjects, and found that, at an advanced level, these L2ers generally master the discourse conditions which govern the distribution of overt and null subject pronouns in Spanish, which runs counter to the IH. Even though this study does not lend support to the prediction that the syntax-discourse interface is necessarily problematic in an L2, it confirms that, as the IH predicts, "narrow" syntactic properties are less problematic for L2ers than the properties involving the interface with external domains in that its results show that English speakers of Spanish master the syntax of pronominal subjects before developing knowledge of the discourse conditions which regulate their distribution.

Despite providing valuable insights into the acquisition of NSLs, most of the studies which seemingly disconfirm the IH must be interpreted with caution as they have an important methodological limitation: they only use untimed offline tasks, such as acceptability judgement tasks and acceptability preference tasks (cf. table 7.1).

Study	***Experimental tasks***
Domínguez & Arche (2014)	• Untimed sentence-preference task
Hertel (2003)	• Untimed written production task
Madeira, Xavier & Crispim (2012)	• Untimed pronoun-preference task • Untimed interpretation task
Rothman (2009)	• Untimed acceptability judgement task • Untimed written translation task • Untimed interpretation task (Note: this task only tested the overt pronoun constraint)

Table 7.1. *Experimental tasks used in some of the studies on pronominal subjects and SVI whose results are inconsistent with the IH*

The exclusive use of untimed offline measures for testing the IH is potentially problematic, because, in its current form, this hypothesis situates the source of L2ers' interface problems at the level of processing. More precisely, it predicts that, even if L2ers' underlying linguistic representations are native-like, some level of residual, but permanent, optionality will arise in performance due to processing inefficiencies related

to bilingualism (cf. section 7.2). For this reason, as Sorace (2011c) points out, some untimed offline tasks such as grammaticality judgment tasks "may be too close to the metalinguistic end to capture optionality at the syntax–pragmatics interface, and [are] not the best method to investigate this phenomenon" (Sorace, 2011c: 20). According to Sorace (2011c), the type of optionality predicted by the IH is best tested by means of tasks that give insights about the L2er's processing abilities, such as online tasks (i.e., tasks that measure how speakers process sentences in real time, like eye-tracking or self-paced reading) or offline tasks (i.e., tasks that measure the outcome of sentence processing) which impose extra load on processing resources in the form of time pressure (e.g., speeded grammaticality judgement task) and/or of a concurrent task (e.g., digit recall task).

In the light of these considerations, it can be concluded that, contrary to what might appear at first sight, the untimed offline studies which show that L2ers have successfully acquired the discourse conditions which regulate the distribution of pronominal subjects and SV and VS orders in NSLs are not necessarily problematic for the current version of the IH. Their results may be dismissed as inconclusive regarding the validity of this hypothesis on the following grounds: first, the IH predicts that properties at the syntax-discourse interface are necessarily affected by processing issues, but does not rule out the possibility of full convergence with the L2 at a representational level. Second, and most importantly, it is impossible to guarantee that a given property at the syntax-discourse interface is not affected by any processing issues on the basis of untimed offline measures alone. It would be necessary to use speeded offline tasks and/or online tasks to check whether the syntax-discourse properties which are unproblematic in untimed offline tasks are in fact completely unaffected by processing problems. To the best of my knowledge, no study has ever done this.

Although the IH makes predictions that are best tested via online tasks and/or speeded offline tasks, most of the studies which served as a basis for the formulation and confirmation of this hypothesis used untimed offline tasks, as shown in table 7.2. Crucially, these tasks involved either comprehension or (relatively) spontaneous oral production in the L2. Hence, they are more distant from the metalinguistic end than the acceptability judgement tasks and the preference tasks which were used in some of the studies listed in table 7.1. This fact may at least partially explain why the untimed

offline tasks used by Sorace and colleagues captured L2ers' optionality at the syntax-discourse interface (Sorace, p.c.).

Study	*Experimental tasks*
Belletti, Bennati & Sorace (2007)	• 2 oral production tasks (one elicited answers to narrow subject focus questions, the other elicited the production of pre- and post-verbal subjects in all focus sentences) • Storytelling task (to test spontaneous production of subjects) • Untimed picture verification task (to test the interpretation of null and overt pronominal subjects)
Sorace & Filiaci (2006)	• Untimed picture verification task (to test the interpretation of null and overt pronominal subjects)
Tsimpli & Sorace (2004)	• Oral production task (to test spontaneous production of subjects)

Table 7.2. *Experimental tasks used in the studies by Sorace and colleagues on pronominal subjects and "free" inversion in L2 NSLs*

In summary, while much of the recent research on the L2 acquisition of pre- and post-verbal subjects in NSLs clearly confirms the predictions of the IH, there are some studies which have produced results that, at first sight, bring the validity of this hypothesis into question. However, a closer inspection of the latter studies reveals that the proficiency level of their participants and/or the experimental tasks they used may not be the most appropriate for testing the IH, which may, at least in part, explain why their results are not in line with this hypothesis. If we put aside the most disputed details on the L2 acquisition of subjects in NSLs, we reach the following general conclusion: L2ers of NSLs can successfully develop a null subject grammar and do so relatively early on. In general, they exhibit prolonged difficulties (almost) only with respect to the discourse conditions which govern the distribution of (overt) pronominal subjects and the placement of lexical subjects (in narrow focus contexts). These interface phenomena tend to be a locus of residual optionality even at the near-native level.

7.3.2. *L2 acquisition of pre- and post-verbal subjects in NNSLs*

The L2 acquisition of pre- and post-verbal subjects in NNSLs has been investigated by a relatively small number of studies. Most of them focus exclusively on morphosyntactic aspects. As a result, at present, there are few data on what happens at the syntax-discourse interface in the context of the L2 acquisition of NNSLs. In what follows, I review the available data on the syntax and information structure of subjects

in the only NNSL that has been consistently investigated in the literature – English – and compare them to the recent findings on the acquisition of NSLs which were summarised in 7.3.1.

The acquisition of subjects in L2 English was first investigated by White (1985). Her purpose was twofold: (i) to determine whether the L1 setting for the NSP was carried over to the L2, and (ii) to examine whether the properties associated with the negative setting of this parameter developed in a cluster-like way. With these purposes in mind, White asked French and Spanish speakers with different levels of proficiency in English, ranging from beginner to advanced, to judge the grammaticality of a number of sentences, including some with null subjects, some with ungrammatical SVI, and some with *that*-trace violations. Results revealed significant differences between groups, with Spanish speakers much more likely than French speakers to accept null subjects and *that*-trace violations in English. However, the accuracy level of Spanish speakers' judgements about the acceptability of those properties improved as their proficiency level increased. Unlike null subjects and *that*-trace violations, "free" SVI was not a problem area for the Spanish speakers tested by White. They rejected this word order from beginner levels, just as French speakers of English did. Together, these results suggest that French speakers correctly set the NSP at a negative value from the early stages of L2 English acquisition, but Spanish speakers do not. They initially transfer the L1 setting of the NSP to English and then gradually switch to the L2 setting at later stages. Crucially, the resetting of the NSP from the L1 to the L2 setting does not seem to happen in a cluster-like way, as the cluster of properties traditionally associated with the negative value of the parameter does not surface at the same time.

Subsequent studies into the acquisition of the NSP in L2 English consistently showed that, as White (1985) had first observed, native speakers of NSLs (at least initially) transfer null subjects from their L1 to English (Hilles, 1986; Phinney, 1987; Ruiz de Zarobe, 1998; Tsimpli & Roussou, 1991). Nevertheless, the results of these studies were much less clear with respect to the availability of SVI in L2 English. On the one hand, Tsimpli and Roussou (1991) found that native speakers of Greek, which is a NSL, judge SVI to be ungrammatical in English, just as the Spanish speakers of English tested by White (1985) did. On the other hand, research by Rutherford (1989), Zobl (1989) and Oshita (2004) revealed that L1 speakers of NSLs like Spanish and Italian produce SVI in English, but almost exclusively with unaccusative verbs, which

are the verbs that occur more readily in SVI structures both in NSLs and in English (cf. chapters 4 and 6).[118]

The differences between these studies may stem from methodological factors. It may well be the case that the speakers tested by White (1985) and Tsimpli and Roussou (1991) rejected VS orders in English because these authors used acceptability judgement tasks, without controlling for two variables that greatly affect the acceptability of "free" SVI in NSLs: (i) verb type and (ii) discourse context. In these tasks, the sentences which tested SVI included an unbalanced mixture of verb classes and were presented out of context. The latter fact might have favoured an all-focus reading of VS sentences and, consequently, confounded the overall results of the tasks. As previously noted in chapters 3 and 6, in sentence focus contexts, NSLs, such as Spanish, EP (Sheehan, 2007, 2010) and Greek (Prentza & Tsimpli, 2013), only admit VS orders when the verb is intransitive and optionally selects LOC. This is the case of change-of-location unaccusative verbs like "to arrive", "to come" or "to enter". So, contrary to what one might think, the overall rejection of SVI in White's (1985) and Tsimpli and Roussou's (1991) studies is not unexpected under the hypothesis that L1-NSL L2-English speakers transfer the properties of their L1 to the L2. By using (free) written production data instead of acceptability judgements as the basis for their research, Rutherford (1989), Zobl (1989) and Oshita (2004) avoided these methodological traps. This might explain why they were able to capture evidence of the availability of SVI in interlanguage grammars.

Significantly, the availability of SVI in L2 English has been confirmed by recent research into the acquisition of subjects in L1 NSL - L2 English pairings. Unlike the works that have been reviewed so far, some of the recent studies on English post-verbal subjects consider not only syntactic aspects, but also discourse factors, because one of their aims is to test the IH. This is the case of Lozano and Mendikoetxea's (2008, 2010) corpus-based studies. Based on the analysis of a corpus containing written productions from upper intermediate Spanish L2ers of English, these researchers found that Spanish speakers master the discourse condition to which post-verbal subjects are subject in

[118] These studies differ in their explanation of why SVI occurs mostly with unaccusative verbs. According to Zobl (1989), the reason for this is developmental: the use of VS orders results from an attempt to preserve at surface structure the configuration for theme assignment that exists at deep structure, and precedes a stage in which L2ers are able to determine the canonical alignment between semantic roles and syntactic structure. According to Rutherford (1989), the production of VS results from L1 transfer, but no explanation is offered as to why this word order is restricted to unaccusative verbs.

English − the condition that determines that they must be focus −, but have problems at the level of narrow syntax. 65.5% of the SVI structures produced in their corpus were ungrammatical due to the following types of problems, which were also attested in an earlier corpus-based study by Oshita (2004): (i) *it*-insertion, as in (9a); (ii) XP-insertion, as in (9b); and (iii) null category-insertion, as in (9c). Like the English L2ers tested by Oshita (2004), Rutherford (1989) and Zobl (1989), Lozano and Mendikoetxea's participants only produced VS orders with the verb class that occurs most readily in English SVI constructions: the class of unaccusative verbs.

(9) a.***it-V-S*** [41.4% of all VS structures]
In the name of religion it had occurred many important events, [...].
b.****XP-V-S*** [13.8% of all VS structures]
In 1769 occurs the restoration of Charles II in England.
c.****Ø-V-S*** [8.6% of all VS structures]
[...] because exist the science technology and the industrialisation.
(Lozano & Mendikoetxea, 2010: 486-487)

Lozano and Mendikoetxea's findings, on the one hand, confirm the view that structures at the syntax-discourse interface pose significant problems for L2ers and, on the other, suggest that the source of such difficulties may be internal, rather than external, to syntax, which appears to run counter to the predictions of the IH. It is, nevertheless, impossible to draw any firm conclusions about the validity of this hypothesis from Lozano and Mendikoetxea's results for two reasons. First, the upper intermediate L2ers who participated in this study possibly display syntactic problems from which they will be able to recover at more advanced stages. As a result, these L2ers' results do not allow us to reach any conclusions with respect to the only prediction that the IH directly makes about syntax: that syntax is totally acquirable and unproblematic at the end state of L2 acquisition (cf. section 7.2). Second, it is unclear from Lozano and Mendikoetxea's results whether, as they suggest (contra the predictions of the IH), the discourse conditions to which SVI is subject in English are completely unproblematic for L2ers. This is because neither their study nor any other study investigated all the discourse constraints which govern English SVI structures. For example, it remains to be seen whether L2ers of English master the condition that determines that the pre-verbal position of locative inversion constructions must be occupied by a stage topic, or the condition that establishes that the verbs of locative

inversion and *there*-constructions must be compatible with a presentational function (for further details on these conditions, cf. chapter 4).[119] In order to determine whether or not the IH makes correct predictions about the acquisition of SVI in L2 English, one needs to investigate how the L2ers with the best attainable competence in English, i.e., the near-native competence, perform with regard to all the discourse and syntactic constraints to which SVI is subject in this language. To the best of my knowledge, this has never been done.

The highest proficiency level that has ever been examined in previous research on English SVI is the advanced level. This level was tested, for instance, in a recent work by Prentza and Tsimpli (2013), which investigated whether intermediate and advanced Greek speakers of English accept ungrammatical VS structures with unergative, unaccusative and transitive verbs by means of an acceptability judgement task. Results showed that advanced L2ers' allow fewer VS structures than intermediate L2ers, but accept these structures significantly more than the English controls, particularly (but not exclusively) when the verb is unaccusative. Advanced L2ers' acceptance rates were found to diverge from those of the English controls both when VS orders are preceded by an overt XP, as in (10a), and when the pre-verbal position is left empty, as in (10b). These results thus confirm that, as Lozano and Mendikoetxea's findings suggest, the syntactic properties of SVI are particularly difficult to acquire in L1 NSL - L2 English pairings. Nonetheless, given that Prentza and Tsimpli did not test near-native speakers of English, it remains unclear whether these properties are ultimately acquirable in L2 English.

(10) a. *Last night died the prime minister from a heart attack.
b. *Is leaving Anna for Milan the day after tomorrow.

(Prentza & Tsimpli, 2013: 334-335)

[119] Note that Lozano and Mendikoetxea present data about L2ers' behaviour regarding unaccusative verbs of existence and appearance and non-redundant unergative verbs. They show that, like English native speakers, L2ers admit SVI with the former type of verbs, but not with the latter. Nonetheless, this does not say anything about the question of whether Spanish L2ers of English master the discourse conditions to which the verbs of locative inversion and *there*-constructions are subject. To test this, it would be necessary to investigate their behaviour regarding two other subtypes of intransitive verbs: (i) unaccusatives of change of state, which are generally incompatible with English SVI due to a purely discourse reason – they add information which implies the disappearance of the subject rather than its appearance on the scene –; and (ii) redundant unergatives, which are admitted in SVI structures thanks to a combination of syntactic and discourse factors – they are unaccusative-like and add little or no information beyond the existence of the subject.

The research carried out over the past decade has shown that the L2ers of English who are native speakers of NSLs have prolonged difficulties not only with respect to SVI, but also with respect to a property on which the availability of "free" SVI depends – null subjects. For example, in a study on the acquisition of pronominal subjects by advanced Spanish speakers of English, Judy and Rothman (2010) and Judy (2011) found that these speakers accept expletive (but not referential) null subjects in English, and interpret English overt subjects according to the Overt Pronoun Constraint (OPC), which determines that an overt pronoun in an embedded clause can neither be bound by a quantified expression nor by a *wh*-element in a matrix clause whenever the alternation overt/null pronoun is possible (Montalbetti, 1984) (compare (11a) to (11b)). The preferences of Spanish speakers of English are exemplified in (12) and (13) with sample items from the two experimental tasks used in Judy and Rothman's study: a grammaticality judgement/correction task (for non-OPC contexts) and a context matching interpretation task (for OPC-contexts).

(11) a. ¿Quién$_i$ cree que él$_{*i/j}$ es el mejor jugador?

b. Who$_i$ thinks that he$_{i/j}$ is the best player?

(Judy, 2011: 171)

(12) ***Null subjects***

a. This week, *pro*$_{EXPL}$ rained every day and everyone is upset because of it. **(✓Advanced English / *Native English)**

b. Even if my little brother tries his hardest, *pro*$_{REF}$ will never beat me at ping pong. **(*Advanced English / *Native English)**

(sentences from Judy, 2011: 178)

(13) ***Overt subjects in OPC contexts***

a. *Advanced English:* Who$_i$ swears that she$_{\mathbf{*i/j}}$ is not guilty of the crime?

b. *Native English:* Who$_i$ swears that she$_{\mathbf{i/j}}$ is not guilty of the crime?

(sentences from Judy, 2011: 178)

Recent research by Prentza (2013) and Prentza and Tsimpli (2013) on the acquisition of pronominal subjects in L1 Greek - L2 English yielded similar results to those reported by Judy and Rothman for L1 Spanish - L2 English. Prentza and Tsimpli tested intermediate and advanced Greek speakers of English on their knowledge of expletive and referential subjects in non-OPC contexts by means of an acceptability judgement task and a cloze test. Their results revealed that both intermediate and

advanced L2ers allow null subjects in English significantly more than English native speakers.[120] Results moreover showed that L2ers accept more null expletive subjects than null referential subjects, regardless of their proficiency level.

Interestingly, the differences between null expletive subjects and null referential subjects reported by Prentza and Tsimpli (2013; Prentza, 2013) and Judy and Rothman (2010; Judy, 2011) were also attested in earlier GenSLA research on the NSP, namely in Phinney (1987) and in Tsimpli and Roussou (1991). According to Judy and Rothman (2010), these differences can be explained as follows. Referential null subjects are admitted exclusively when they are syntactically licensed and identified by rich verbal inflection. Due to the weak verbal morphology of English, these requirements cannot be met, even if L2ers apply the underlying null subject syntax of their L1 to English. As null expletives are not syntactically licensed by rich inflection and do not need to be identified by virtue of their semantically vacuous nature, they are more readily acceptable in a language with poor inflection like English. As a result, L2ers of English tend to drop expletive subjects considerably more frequently than referential ones.

Taken together, the existing research findings on the L2 acquisition of SVI and pronominal subjects in NNSLs and NSLs suggest that the linguistic areas which cause problems to L2ers at (highly) advanced stages of acquisition may vary according to L1-L2 pairings. The pattern that emerges from the studies conducted to date is the following:

[120] Prentza and Tsimpli (2013) claim that the syntactic problems attested in L1 NSL - L2 NNSL pairings support the Interpretability Hypothesis (Tsimpli & Dimitrakopoulou, 2007), according to which the uninterpretable features that are not selected from the UG inventory of features within the critical period become inaccessible to L2ers and, as a result, present an insurmountable difficulty in adult L2 acquisition. Assuming that the differences between NSLs and NNSLs concerning null subjects and "free" SVI reflect a mismatch in the LF-uninterpretable features associated with the status of verbal agreement in these languages, Prentza and Tsimpli claim that native speakers of NSLs like Greek are unable to converge with the syntax of English, because they do not have access to the uninterpretable features that are not instantiated in their L1. The problem of Prentza and Tsimpli's proposal is that it incorrectly predicts the resetting of the NSP to be impossible both in the direction of NSL to NNSL and in the opposite direction, i.e., NNSL to NSL. Obviously, if the differences between NSLs and NNSLs boil down to a difference in uninterpretable features, then it follows that L2ers have to acquire uninterpretable features which are not instantiated in their L1s not only in L1 NSL - L2 NNSL pairings, but also in L1 NNSL - L2 NSL pairings. And if, as the Interpretability Hypothesis predicts, the uninterpretable features not present in the L1 are permanently inaccessible to adult L2ers, then, under this hypothesis, one would expect NSP-resetting to be impossible in the direction of non-null subject to null subject. Yet, as noted in 7.3.1, over the past decades, a large body of research has consistently shown that native speakers of NNSLs can successfully reset the NSP to the positive value (e.g., Al-Kasey & Pérez-Leroux, 1998; Pérez-Leroux & Glass, 1999; Rothman & Iverson, 2007a, 2007b; Sorace & Filiaci, 2006). This finding, therefore, constitutes robust evidence against Prentza and Tsimpli's account.

i. In L1 NNSL - L2 NSL pairings, L2ers acquire a null subject grammar early on (e.g., Al-Kasey & Pérez-Leroux, 1998; Liceras, 1989; Pérez-Leroux & Glass, 1999; Rothman & Iverson, 2007a; 2007b; among others), but typically exhibit difficulties with respect to the discourse conditions which govern the distribution of (overt) pronominal subjects and SV and VS orders even at a near-native level (e.g., Belleti, Bennati & Sorace, 2007; Madeira, Xavier & Crispim, 2009; Sorace & Filiaci, 2006; among others). Their problems are, therefore, situated at the interface between syntax and discourse, as predicted by the IH.

ii. In L1 NSL - L2 NNSL pairings, L2ers master at least some of the discourse conditions which govern SVI relatively early on (by an intermediate stage) (cf. Lozano & Mendikoetxea, 2008, 2010), but have difficulties with respect to the syntax of this word order and of pronominal subjects at least up to an advanced stage of acquisition (cf. Judy & Rothman, 2010; Judy, 2011; Prentza & Tsimpli, 2013). Their problems are, thus, purely syntactic.

Even though, at first glance, the comparison between L1 NNSL - L2 NSL pairings and L1 NSL - L2 NNSL pairings might suggest that the IH might be wrong overall, one must not jump to conclusions about the validity of this hypothesis on the basis of the data summarised above, because the studies which have investigated the acquisition of pre- and post-verbal subjects in L1 NSL - L2 NNSL pairings have two important limitations: (i) they have never tested near-native speakers, who are the L2ers with whom the IH is primarily concerned, and (ii) they have only tested one of the many discourse conditions to which SVI is subject in a NNSL like English – the condition that determines that post-verbal subjects must be focus. Hence, it may be a little premature to make generalisations about whether discourse conditions are completely unproblematic in the acquisition of SVI in L2 English on the basis of such limited data. The only firm conclusion that can be drawn from a comparison of the findings on L1 NSL - L2 NNSL pairings and L1 NNSL - L2 NSL pairings is that the syntax of subjects poses more developmental problems in the former language pairing than in the latter.

In an effort to explain these L1/L2 directionality effects in the acquisition of the syntax of subjects, Judy and Rothman (2010) and Judy (2011) revived the notions of *superset* and *subset*, which were first used in the domain of language acquisition in the 1980s (e.g., Berwick, 1985; Manzini & Wexler, 1987), and formulated a hypothesis that I label "the Superset-Subset Hypothesis" for ease of exposition. A superset-subset

relationship obtains when a grammar A is larger than a grammar B for a given phenomenon and the larger grammar (the superset) subsumes the possibilities of the smaller grammar (the subset). Judy and Rothman claim that, in the case of the NSP, a NSL like Spanish is the superset of a NNSL like English, because the former language allows overt and null subjects (and – I would add – SV and ØVS orders), while the latter only admits overt subjects (and SV orders).[121] Based on this assumption and on the Full Transfer - Full Access Model of L2 acquisition (Schwartz & Sprouse, 1996), according to which L1 parameter-settings are initially transferred to the L2 and remain in interlanguage grammars until restructuring is proven necessary by means of parsing failures, Judy and Rothman hypothesise that the superset-subset relationship between grammars may ultimately determine the potential for native-like attainment in "narrow" syntax.

According to their hypothesis, in the language pairings where the L1 is the superset of the L2 regarding the NSP, it is possible for an interlanguage with the L1 setting for this parameter to accommodate the L2 input. Due to the absence of parsing failures, the NSP may never be reset to the L2 value. Conversely, in the language combinations where the L1 is the subset of the L2, it is impossible for an interlanguage with the L1 setting for the NSP to effectively parse the null subjects (and – I would add – ØVS orders) in the L2 input, which gives rise to parsing failures. These failures, in turn, prompt L2ers to restructure their interlanguages and eventually converge with the target grammar. Judy and Rothman argue that this is why NSP resetting is more problematic in the direction of [+NSP] to [-NSP] than in the direction of [-NSP] to [+NSP].

This explanation, however, has a problem: it overlooks the fact that NSLs and NNSLs like English do not really fall into a superset-subset relation regarding expletive subjects. As noted in chapter 3, a NSL like EP only allows null expletives and English just admits overt expletives. In other words, NSLs do not include the English option for expletive subjects. The proposal that there is a superset-subset relation between NSLs and English regarding referential subjects and VS/SV orders is also debatable. This is because, contrary to what the Superset-Subset Hypothesis seems to assume, NSLs do not optionally use overt and null subjects and SV and VS orders in the contexts where English uses overt subjects and SV orders. L1 speakers of NSLs have strong (but not

[121] Note that this idea is not new. Traditionally, NSLs are seen as the superset of NNSLs.

categorical) preferences for this or that option according to well-defined discourse/pragmatic, semantic and lexical-syntactic factors (see chapters 3 and 6). Nonetheless, it must be conceded that, even in the contexts where null subjects and VS orders are strongly preferred, overt referential subjects and SV orders are always grammatical options in NSLs. For this reason, an interlanguage grammar with a positive setting for the NSP is likely to be able to successfully parse all the SV orders and overt referential subjects in the L2 input, including those which occur in contexts that favour null subjects and SVI in NSLs. In the absence of parsing failures, L1 properties are likely to remain unchallenged for a long time, which is consistent with Judy and Rothman's predictions. Thus, the fact that there is a relatively well-defined division of labour between overt and null subjects and between SV and VS orders in NSLs is not particularly problematic for Judy and Rothman's account.

What is truly problematic for their Superset-Subset Hypothesis is the fact that overt expletive subjects are ungrammatical in consistent null subject grammars, as this means that the occurrence of this type of subjects in English cannot be accommodated by an interlanguage grammar with null subject properties. The presence of overt expletive subjects in the input, thus, constitutes an unambiguous piece of positive evidence that English has a positive setting for the PF-interpretability micro-parameter described in chapter 3 (i.e., it requires Spec, IP to be spelled out at PF), and that, consequently, all types of null subjects are ungrammatical in this language. As null subjects seem to be a pre-requisite for "free" inversion to be licensed in natural language grammars (cf. chapter 3), the presence of overt expletive subjects may serve not only as direct positive evidence that English does not allow subjects to remain unexpressed, but also as indirect positive evidence that "free" inversion is ungrammatical in this language.[122] The occurrence of overt expletive subjects in the input should, therefore, be able to trigger NSP resetting.

The idea that overt expletives can trigger NSP resetting from a positive to a negative value is not new. It was first proposed by Hyams (1983, 1986) to explain how L1 acquirers of English, who initially go through a null subject phase, reset the NSP to the target value. Crucially, when applied to L2 acquisition, this proposal predicts contra the Superset-Subset Hypothesis that the L1 transfer of the positive setting for the NSP

[122] Grammar is an implicational network of interrelated properties. For this reason, as Yip (1995: 40) points out, "positive evidence of a structure can serve as indirect evidence for the occurrence or non-occurrence of another related structure, thus causing change in the grammar".

should not pose an insurmountable learnability obstacle to L1 NSL - L2 NNSL speakers. Since no study has ever investigated whether null subjects and "free" inversion are allowed in L1 NSL - L2 NNSL pairings at a near-native level, it remains unclear whether, in these pairings, the syntax of pronominal subjects is a locus of permanent divergence, as suggested by Judy and Rothman (2010), or whether convergence with the L2 is ultimately possible, as predicted by the IH and Hyams's (1986) proposal that expletives can trigger NSP resetting. Further research is, therefore, needed.

On the basis of the review of the literature presented in this section, it can be concluded that overall GenSLA research on pronominal subjects and SVI has yielded mixed results with regard to the validity of the IH. While the studies which concentrate on the L2 acquisition of NSLs generally confirm this hypothesis, those which focus on the acquisition of NNSLs bring its validity into question by suggesting that, in L1 NSL - L2 NNSL pairings, the syntax of subjects creates more prolonged problems for L2ers than the discourse conditions that govern SVI. Despite offering some valuable insights, the latter studies must be interpreted with caution as they have two important limitations: they provide us with no information about how L2ers of NNSLs perform at the highest possible level of ultimate attainment, i.e., the level for which the IH was proposed, and have never tested most of the discourse conditions to which SVI structures are subject in a NNSL like English. Only after addressing these gaps will we be able to reach firm conclusions as to whether L2ers' behaviour in the acquisition of pre- and post-verbal subjects in NNSLs confirms or disconfirms the IH.

7.4. The wider picture: Research on the L2 acquisition of other structures at the syntax-discourse interface

Although the acquisition of pronominal subjects and SVI has traditionally constituted the main testing ground for the IH, over the past decade, there have appeared a number of studies which focus on other structures at the syntax-discourse interface. Overall they have yielded contradictory results with regard to the validity of the IH (White, 2009, 2011b) . In fact, while some confirm that the syntax-discourse interface is persistently problematic for highly advanced L2ers, just as the IH predicts (e.g., Bohnacker and Rosén's (2007) study on the prefield in L2 German; Hopp's (2004) research on scrambling in L2 German; Wilson's (2009) and Wilson, Sorace & Keller's

(2009) work on personal and demonstrative pronouns in German anaphoric dependencies), others challenge this hypothesis by showing that L2ers successfully acquire syntax-discourse structures such as *c'est* clefts and *avoir* clefts in L2 French (Donaldson, 2012), left and right dislocation in L2 French (Donaldson, 2011a, 2011b), clitic-doubling in L2 Bulgarian (Ivanov, 2009, 2012), focus fronting in L2 English (Slabakova, 2015a), and focus fronting, clitic left dislocation and clitic right dislocation in L2 Spanish (Domínguez & Arche, 2014; Slabakova, 2015a; Slabakova et al., 2012; Slabakova, Rothman, & Kempchinsky, 2011; Slabakova, Rothman, Leal Mendez, Campos, & Kempchinsky, 2011).

Crucially, many of the studies which demonstrate that target L2 ultimate attainment is possible at the syntax-discourse interface simultaneously show that knowledge of how discourse factors constrain syntax emerges quite late in the course of L2 development and generally after the acquisition of purely syntactic properties (e.g., Ivanov, 2009, 2012; Slabakova, Rothman, Leal Mendez, Campos, & Kempchinsky, 2011; Slabakova, Kempchinsky, & Rothman, 2012). Similar results are also reported by some of the studies on the acquisition of SVI and pronominal subjects which are not in line with the predictions of the IH about ultimate attainment. For example, Rothman (2009) shows that the acquisition of the syntax of pronominal subjects precedes the acquisition of their discourse-sensitive properties, which are only in place at an advanced level. Likewise, Domínguez and Arche (2014) show that the VS orders which are situated at the syntax-discourse interface are acquired late, at an advanced level.

Taken together, GenSLA research findings challenge as well as support the IH. On the one hand, they confirm that, as the IH indirectly predicts (cf. section 7.2), the syntax-discourse interface generally presents some level of developmental challenges for L2 acquisition. On the other hand, they indicate that, contrary to what the IH explicitly predicts, this interface is not necessarily a locus of optionality at the level of ultimate attainment. Put differently, research findings support the developmental predictions of the IH, but bring into question its predictions about ultimate attainment.

It is, however, important to note that most of the studies that apparently disconfirm the predictions of the IH about ultimate attainment share a potential methodological problem: they only use untimed offline tasks, mainly acceptability judgement tasks and preference tasks (cf. table 7.3). As argued earlier in this chapter (cf. section 7.3.1), these tasks may not be the most adequate to test the type of optionality

predicted by the IH, i.e., optionality (primarily) motivated by processing inefficiencies. This is because untimed offline tasks give L2ers some time to engage in deliberate thinking, proceed to reanalyses of experimental sentences and modify their initial answers accordingly, which, at least in some cases, can conceivably mask problems resulting from processing inefficiencies in the first encounter(s) with the experimental sentences. As Sorace (2011c) suggests, the processing-related problems predicted by the IH are best investigated through tasks that give insights into processing abilities, such as online tasks or even speeded offline tasks.[123] From this, it follows that, contrary to what might appear at first sight, the untimed offline studies which show that properties at the syntax-discourse interface are successfully acquired by (highly) advanced L2ers are not necessarily problematic for the IH. Their results may be dismissed as inconclusive on the grounds that it is impossible to ensure that a given structure at the syntax-discourse interface is not affected by any processing issues on the basis of untimed offline measures alone.

Study	***Experimental tasks***
Domínguez & Arche (2014)	• Untimed sentence-preference task
Donaldson (2011a, 2011b, 2012)	• Corpus of spontaneous informal dyadic conversations • Untimed acceptability judgement task • Untimed sentence-preference task
Ivanov (2009, 2012)	• Untimed sentence-preference task
Slabakova, Rothman & Kempchinsky (2011); Slabakova, Rothman, Leal Mendes et al. (2011); Slabakova et al. (2012)	• Untimed acceptability judgement tasks

Table 7.3. *Experimental tasks used in some of the studies whose results are inconsistent with the IH*

One of the few offline studies that yielded results against the IH which are not easily dismissible on methodological grounds was conducted by Slabakova (2015a). In this study, she investigated the acquisition of discourse-conditioned left dislocations in L1 English - L2 Spanish and L1 Spanish - L2 English by advanced and near-native L2ers. Data were collected by means of a series of acceptability judgement tasks, which

[123] As Sorace (2011c: 20) notes, offline tasks with extra load in the form of time pressure "can provide information about the point at which the processor breaks down under load and thus about the processing resources available to the speaker".

tested the following constructions: Spanish clitic-left dislocation, English topicalization and English and Spanish focus fronting. As illustrated in (14), the fronted focus construction has the same discourse and syntactic properties in English and Spanish. In contrast, Spanish clitic-left dislocation (15) and English topicalization (16) are similar in their discourse function (they mark topic), but different at the level of syntax in that the former but not the latter requires the left-dislocated phrase to be doubled by a clitic. These constructions moreover differ in their frequency: topicalization is half as frequent as clitic-left dislocation.

(14) [Context: John bought the furniture]
a. LA ALFOMBRA compró (no los muebles).
b. THE RUG he bought (not the furniture).

(15) [Context: I need to buy a newspaper and some bread.]
El periódico, **lo** compraré antes de ir al trabajo.
the newspaper, it will-buy before going to work

(16) [Context: I need to buy a newspaper and some bread.]
The newspaper, I will buy **(*it)** before work.

(Slabakova, 2015a: 675)

In this study, English L2ers of Spanish were successful in acquiring focus fronting, as well as clitic-left dislocation. Spanish L2ers of English, on the other hand, were successful in acquiring focus fronting, but not topicalization. They accepted ungrammatical topicalizations, such as "the newspaper, I will buy *it* before work", even at near-native levels. In other words, their problems were of a syntactic nature. These results run counter to the predictions of the IH for two reasons. First, they suggest that the problems at the syntax-discourse interface may be internal rather than external to syntax. Second, they indicate that only some structures at the syntax-discourse interface generate problems at the end state of L2 acquisition. Obviously, it can always be argued that the untimed acceptability judgement tasks used by Slabakova are not the best method to test the IH, and that L2ers could have exhibited optionality with respect to the interface structures that were apparently unproblematic for them if a different type of task had been used (e.g., a speeded acceptability judgement task). Nonetheless, it is undeniable that the IH, as currently formulated, cannot account for these near-natives' syntactic problems and for their asymmetric behaviour regarding comparable interface

structures tested under identical conditions. Even if focus fronting and clitic left dislocation were found to be a locus of optionality in a follow-up online or speeded offline task, the IH would still fail to explain, in a principled way, why these interface structures generate less pervasive problems at the end state of L2 acquisition than English topicalization.

According to Slabakova (2015a), the distinct patterns of behaviour displayed by advanced and near-native L2ers regarding English topicalization, on the one hand, and focus fronting and clitic-left dislocation, on the other, can only be explained by a combination of input and L1 influence effects. She proposes (contra the IH) that, when the constructions at the syntax-discourse interface have the same properties in the L1 and the L2, as is the case of focus fronting in English and Spanish, they do not pose difficulties for advanced and near-native L2ers. If their properties are different in the two languages, then construction frequency in the input becomes a decisive factor in determining the success of the process of L2 acquisition. Frequent constructions (e.g., Spanish clitic-left dislocation) will be successfully acquired, but infrequent ones (e.g., English topicalization) will not.

Building on Slabakova's proposal, Domínguez and Arche (2014) further suggest that it is not just the frequency of the target construction that matters. The lack of transparency in the evidence available in the input may also be a source of divergence in non-native grammars. As previously noted (cf. 7.3.1), in their work on the acquisition of clitic-left dislocation (with focused subjects) and SV-VS contrasts in L2 Spanish, Domínguez and Arche found that the former structure is unproblematic for advanced L2ers while the latter are not. According to them, this difference between clitic-left dislocation and SV-VS contrasts is caused by input factors. More specifically, they argue that SV-VS contrasts are more difficult to acquire than clitic-left dislocation, because SV and VS orders appear with similar frequency in the input, which may render the input insufficiently clear and robust. In contrast, the evidence available in the input on clitic-left dislocation with focused subjects is completely unambiguous, for, in this case, the subject is always inverted and, consequently, no inverted/non-inverted alternation is ever present in the input. Like Slabakova's, Domínguez and Arche's account predicts that, without sufficient unambiguous evidence, misleading transfer will remain unchallenged and lead to persistent divergence in L2ers' representations of the target interface construction.

To summarise, the studies conducted to date generally agree that the syntax-discourse interface poses developmental problems for L2ers, but disagree on whether this interface is necessarily a locus of optionality at the end state of L2 acquisition. At present, there are two competing views on this issue. According to the IH view, even if near-natives' underlying linguistic representations are target-like, some degree of residual optionality is expected in their performance at the syntax-discourse interface, regardless of L1-L2 combinations, as a by-product of bilingual processing. According to an alternative view that emerged from recent work by Slabakova (2015a) and Domínguez and Arche (2014), which I will label the "L1+input hypothesis" (LIH) for ease of exposition, not all structures at the syntax-discourse interface give rise to problems at a near-native level. These structures are only predicted to be problematic when (i) L1 transfer is misleading, and (ii) the evidence available in the input is not transparent (e.g., because the construction is not frequent and/or because of high variability in the input regarding the target construction). Crucially, unlike the IH, the LIH situates near-natives' problems at the representational level. Right now, it is far from clear which (if any) of these views is on the right track.

7.5. L2 acquisition at internal interfaces: An overview

In order to assess whether the IH makes right predictions about the end state of L2 acquisition, one must not only consider the results of previous research on the interface that this hypothesis claims to be the primary locus of permanent optionality in L2 acquisition – the syntax-discourse interface −, but also examine how L2ers behave with respect to the interfaces which are predicted to be largely unproblematic in end-state grammars – the so-called internal interfaces (Sorace, 2011c; Sorace & Serratrice, 2009; Tsimpli & Sorace, 2006). With a view to determining whether, as the IH predicts, internal interfaces are less problematic than the syntax-discourse interface, the present section briefly examines research findings on the internal interfaces that have been best investigated in GenSLA – the syntax-semantics interface, the syntax-morphology interface and the lexicon-syntax interface.

A large body of work has shown that the syntax-semantics interface is not generally a problem area for L2ers. Madeira, Xavier and Crispim (2010), for example, found that advanced L2ers of EP successfully acquire the syntactic and semantic conditions which determine the interpretative properties of subjects in inflected

infinitive contexts, regardless of whether their L1 is a NSL or a NNSL, even though the possibility of inflected infinitives depends on a positive specification of the NSP. These results are consistent with the claims of Slabakova (2003, 2009), who concludes that L2ers are able to successfully acquire properties at the syntax-semantics interface that are neither transferable from the L1 nor explicitly taught in language classrooms, based on the results of a study which indicates that Bulgarian L2ers of English master the interpretative properties of the functional category of aspect phrase (AspP) which are neither instantiated in their L1 nor taught in English courses in Bulgaria (e.g., the fact that bare verbal forms denote completed events). Similarly, research by Dekydtspotter and colleagues on the acquisition of subtle interpretive properties associated with *combien* extraction (Dekydtspotter, Sprouse, & Swanson, 2001), process/result nominals (Dekydtspotter, Sprouse, & Anderson, 1997) and quantification in L2 French (Dekydtspotter, Sprouse, & Thyre, 2001) also lends support to the proposal that the syntax-semantics interface is not problematic, by providing evidence that L2ers can and do successfully acquire very subtle interpretative distinctions that exist in the L2 (in this case, French), but not in the L1 (English).

There are, however, a few attested cases of difficulties in the acquisition of properties at the syntax-semantics interface. For example, Guijarro-Fuentes and Marinis (2007) show that L2ers have difficulties in acquiring the distribution of the Spanish personal preposition *a*, a phenomenon at the syntax-semantics interface. In addition, Bruhn de Garavito and Valenzuela (2006) reveal that advanced L2ers of Spanish who are native speakers of English distinguish between the copulas *ser* and *estar* (‘be’) in Spanish, but do not seem to acquire their interpretative properties. Crucially, as Bruhn de Garavito and Valenzuela (2006) and Guijarro-Fuentes and Marinis (2007) only tested L2ers at intermediate to advanced proficiency levels, i.e., at levels below the one for which the IH was proposed − the near-native level −, their findings do not constitute evidence against the predictions of IH about ultimate attainment. Hence, it can be safely concluded that research findings on the syntax-semantics interface are consistent with the IH.

While the syntax-semantics interface only seems to generate difficulties for L2ers in exceptional cases, the syntax-morphology interface is typically problematic in L2 acquisition. A number of studies attest that L2ers frequently display variability in their production of inflectional morphology (e.g., tense marking, gender marking) and

function words (e.g., articles), omitting these or making inappropriate substitutions of one kind of inflection for another, even at an advanced level of proficiency (e.g., Franceschina, 2005; Lardiere, 1998, 2007; White, 2003a). In the light of these facts, and taking into account a comparison of research findings on the acquisition of functional morphology, narrow syntax, the syntax-semantics interface and the syntax-discourse/pragmatics interface, Slabakova (2009: 280) proposes that "it is the functional morphology which is the bottleneck of L2 acquisition", both developmentally and at the end state of acquisition (Slabakova, 2016). Slabakova's Bottleneck Hypothesis, therefore, disagrees with Sorace's IH on the primary location of L2ers' most persistent problems: the morphology-syntax for one, the syntax-discourse/pragmatics interface for the other. Since the Bottleneck Hypothesis has not been sufficiently investigated among near-native speakers, it is unclear whether it makes correct predictions about the level with which the IH is chiefly concerned − the highest level of L2 ultimate attainment – or whether it only applies to stages below the near-native state.

It must be noted at this point that there are several studies which report problems with respect to functional morphology in grammars that are classified as "end state" (e.g., Lardiere, 1998, 2007). Nonetheless, such grammars are "end state" in the sense that they seem to have permanently stabilised despite being under continued optimal exposure conditions, rather than in the sense that they correspond to the furthest attainable competence level in an L2. While it might be relevant to study non-native fossilised end states, the results of this kind of research cannot be interpreted as conclusive regarding the validity of the IH. As noted earlier in this chapter, the IH is an account of the limits of L2 acquisition, of what is inevitably and permanently problematic for L2ers. To determine what is inevitably problematic, one needs to test the minority of L2ers who attain the furthest attainable competence level in an L2 – the near-native level –, as any differences between these L2ers' linguistic behaviour and that of (monolingual) native speakers may be safely considered permanent and inevitable. The same conclusion cannot be reached with respect to the non-target-like patterns of behaviour exhibited by the L2ers whose grammar stabilised before reaching the near-native level. It can always be argued that such deviant patterns result from the fact that these L2ers' grammars have fossilised, and that, if they had progressed to the near-native level, they could have ultimately converged with the target language. Hence,

as Sorace (2012: 213) emphasises, "it is research on near-nativeness that gives us the most revealing information about the limits of late bilingualism".

One of the few available studies on the acquisition of properties at the syntax-morphology interface by near-native speakers was conducted by Hopp (2007, 2009, 2010). He tested native speakers of Dutch, English and Russian at advanced and near-native levels of proficiency in L2 German on, among other things, their knowledge and processing of case and subject-verb agreement inflection. His results showed that the near-native groups exhibited target-like sensitivity to case marking and subject-verb agreement inflection in an offline grammaticality judgment task and a self-paced reading task. In contrast, in the speeded grammaticality judgment task, only the L1 Russian near-natives were able to consistently identify case-marking violations. As neither English nor Dutch have case marking on full DPs, but Russian does, Hopp interpreted these results as evidence that the L1 influences L2 processing efficiency. Hence, his findings indicate that there are residual difficulties in the processing of L2 case morphology. More generally, Hopp's experiments suggest that complete convergence at the representational level is possible for near-native speakers, but they may have residual problems in integrating syntactic and morphologic information in real time processing, depending on whether their L1 is similar to or different from the L2 in the relevant properties. Such pattern of behaviour is rather unexpected under the IH.

GenSLA research on the lexicon-syntax interface has similarly yielded results which are not fully in line with the IH. This interface has been mainly investigated in the context of the acquisition of syntactic manifestations of split intransitivity, such as auxiliary selection, *ne*-cliticisation, post-verbal subjects and the absolutive construction (Kraš, 2009, 2010; Montrul, 2004, 2005a, 2005b; Sorace, 1992, 1993). Most GenSLA studies on split intransitivity assume with Sorace (2000, 2004, 2011b) that intransitive verbs are organised along a hierarchy – the split intransitivity hierarchy (SIH), originally called the auxiliary selection hierarchy –, whose ordering is determined primarily by aspectual notions (telicity/atelicity) and secondarily by the degree of agentivity of the verb.[124] The verbs which are at the core of unaccusativity and unergativity in the SIH have a determinate syntactic behaviour. Conversely, peripheral verbs may behave syntactically like unaccusative verbs or like unergative verbs

[124] The SIH is presented in fn 45, chapter 4.

depending on the properties of the predicate in which they appear. The more distant a verb is from the unaccusative and unergative cores of the SIH, the more indeterminate its syntactic behaviour is likely to be. Under this view of split intransitivity, it is assumed that "there are two sides to the split intransitivity question: a syntactic side (the structural configuration that determines unaccusativity or unergativity) and a lexicon-syntax interface side (the mapping system that decides the syntactic behaviour of any given verb)" (Sorace, 2006: 111).

GenSLA research has consistently shown that L2ers'problems in the acquisition of split-intransitivity tend to be situated on the interface side, rather than on the syntactic side. In fact, the syntactic distinction between core unaccusative verbs and core unergative verbs is acquired early and remains unproblematic throughout the process of L2 acquisition (Montrul, 2004, 2005a, 2005b; Sorace, 1992, 1993). In contrast, sensitivity to the subtle semantic distinctions which impact on the syntactic behaviour of non-core verbs emerges late and never reaches the same level of determinacy shown by native speakers even at the near-native level (Kraš, 2009, 2010; Montrul, 2005a, 2005b; Sorace, 1992).[125] At first glance, the finding that near-native speakers' intuitions are slightly less determinate than those of native speakers may be perceived as evidence against the prediction of the IH that the syntactic phenomena which interface internally with other sub-modules of language are unproblematic at the end state of L2 acquisition. Nonetheless, such finding is reconcilable with the IH if we adopt Kraš's (2010:70) view that "differences in determinacy, when accompanied by evidence for the learners' ability to make theoretically relevant distinctions pertaining to the phenomena in question to a statistically significant degree, should not be interpreted as evidence for a non-native-like attainment of these phenomena". After all, as she points out, "a somewhat lower level of determinacy might be a general property of L2 grammars, even those at the near-native level, resulting simply from the fact that these grammars develop and exist against the backdrop of another grammar, of which the learners are native speakers" (Kraš, 2010: 70).

[125] Similar findings have also been obtained in the context of L1 attrition. For example, Montrul's (2005b) study of L1 attrition in second generation Spanish speakers in the USA reveals that these speakers maintain robust knowledge of the syntactic manifestations of unaccusativity in Spanish, as they correctly discriminated syntactically between unaccusative and unergative verbs in contexts requiring post-verbal bare plural subjects, post-verbal subjects and the absolutive construction. However, these speakers lose sensitivity to the gradient semantic distinctions along the SIH.

The main empirical problem facing the IH is that GenSLA research into split intransitivity found not only minor differences in the determinacy of near-native and native speakers' intuitions, but also major differences in their representations of a syntactic structure that is sensitive to split intransitivity: the Italian restructuring construction (Kraš, 2011; Sorace, 1992, 1993). In this construction, the main verb typically takes *avere* 'have' as its auxiliary, but, when the embedded verb is unaccusative and requires *essere* 'be', the auxiliary of the main verb can optionally shift to *essere*, as shown in (17a). In the presence of clitic climbing, the change from *avere* to *essere* becomes obligatory. This is illustrated in example (17b).

(17) a. Mia figlia non **è** potuta / **ha** potuto venire a scuola.
my daughter not is/has could come to school
b. A scuola, mia figlia non ci **è** potuta **/*ha** potuto venire.
to school, my daughter not CL is/has could come

(adapted from Sorace, 1993: 34)

Unlike what would be expected under the current version of the IH, the research conducted by Sorace (1992, 1993) and Kraš (2011) into auxiliary change in restructuring structures demonstrates that near-native speakers do not (fully) master the syntactic and lexical constraints which govern auxiliary selection in this context. Depending on the properties of their L1, near-natives' grammars exhibit either divergence from the native grammar, i.e., its representations are determinate but consistently differ from those of native speakers, or incompleteness, i.e., absence of (determinate) representations for properties required by the L2 (see, in particular, Sorace, 1993). The existence of such representational deficits in near-native grammars constitutes evidence against the view that structures involving modules internal to the language faculty are unproblematic at the end state of L2 acquisition.

Taken together, the results of GenSLA research on internal interfaces lead to two conclusions. The first is that internal interfaces are not necessarily unproblematic at the level of ultimate attainment. The second is that these interfaces behave in a less homogeneous way than assumed by the traditional internal-external interface divide. As shown above, while some internal interfaces, like syntax-semantics, do not typically cause any problems for highly advanced L2ers, others, like the syntax-morphology interface, do create some difficulties. Despite disconfirming the claim that internal interfaces are unproblematic in end-state grammars, the findings summarised in the

present section, by themselves, are not completely incompatible with the main prediction of the IH: that the syntax-discourse interface is the primary locus of permanent optionality at a near-native level. This is because the findings reported in GenSLA literature do not point to the existence of any systematically problematic internal interface at the highest level of ultimate attainment. Rather, they suggest these interfaces tend to generate problems occasionally, according to such factors as L1-L2 dissimilarity. Further research is, however, needed before firm conclusions can be reached on whether internal interfaces are less problematic for near-native speakers than the syntax-discourse interface.

7.6. Limitations and open questions

The research that has been conducted over the past decade in the field of GenSLA presents a rather confusing picture of the end state of L2 acquisition at the interfaces, in general, and at the syntax-discourse interface, in particular. It is difficult to go beyond preliminary conclusions on what happens at the syntax-discourse interface on the basis of the current literature, due to five problems, which must be addressed in future research.

The first major problem is the fact that the hypotheses on the end state of L2 acquisition at the syntax-discourse interface are based on evidence from research into a small set of structures and language combinations: mainly null subjects and SVI in L2 NSLs, in the case of the IH, and left dislocations in L2 English and L2 Spanish, in the case of the LIH. Given the broadness of these hypotheses' domain of applicability, this evidence is insufficient to support their predictions. Research into a wider range of structures and language combinations is needed.

The second problem is the lack of comparative data on the acquisition of the same interface structures across different language combinations. Even SVI and pronominal subjects, which are the best researched interface structures in the literature, have been tested mostly in L1 NNSLs - L2 NSLs (e.g., Belletti et al., 2007; Madeira et al., 2009; Sorace & Filiaci, 2006), and, to a lesser extent, in L1 NSLs - L2 NSLs (e.g., Bini, 1993; Margaza & Bel, 2006; Mendes & Iribarren, 2007). There is no data on what goes on at near-native levels in L1 NSL - L2 NNSL and L1 NNSL - L2 NNSL pairings. Yet this information would be of paramount importance for assessing the role of L1

influence, teasing out its effects from the cognitive effects of bilingualism, and determining whether there are L1/L2 directionality effects in the acquisition of pre- and post-verbal subjects, as suggested by the findings of Judy and Rothman (2010), Judy (2011) and Lozano and Mendikoetxea (2010) (cf. section 7.3.2).

The third problem is the lack of research into the role of the input in L2 acquisition at the syntax-discourse interface. As input factors have been generally overlooked, it is difficult to assess whether the LIH applies to the acquisition of structures other than those investigated by Slabakova (2015a) and Domínguez and Arche (2014).

The fourth problem is that many of the studies which make claims about the end state of L2 acquisition at the interfaces do not test near-native participants. Given that L2 knowledge only reaches its full potential at a near-native level, it is indispensable to test L2ers at this level, in order to tease apart permanent and transitory problems in this area of acquisition. As Sorace (2005: 58) points out,

> If it is found, for example, that intermediate grammars appear to violate UG, the argument can always be made that, given more input, or more time, or a better learning environment, the non-native grammar may in due course converge on the target. However, adult learners who have reached the near-native level, and continue to benefit from full exposure to the L2, can be assumed to have progressed to the furthest attainable competence level: if there are differences between their grammar and the target grammar, these differences may therefore be considered as permanent. Investigating these differences is tantamount to testing the limits of L2 acquisition.

The final problem is the reliance of existing studies on untimed offline tasks, in general, and untimed acceptability judgement tasks, in particular. As noted in the discussion of the research findings on the L2 acquisition of pronominal subjects, SVI and other interface structures, untimed offline tasks are not the most adequate to test the type of optionality predicted by the current version of the IH – optionality (primarily) caused by processing inefficiencies – because they generally give L2ers time to engage in deliberate thinking, reanalyse experimental sentences and modify their initial answers, which may mask L2ers' difficulties in the online integration of syntactic and discourse information at least in some cases. The best way to avoid this potential problem is to use tasks that tap into processing, such as online tasks or speeded offline tasks, instead of or in addition to untimed offline tasks.

Due to the problems outlined above, there are a number of key questions to which there is still no consensual answer in the literature, namely:

i. Is the syntax-discourse interface necessarily a locus of optionality at the end state of L2 acquisition? Or is it only problematic in certain cases, such as when L1 transfer is misleading and the input is not transparent?

ii. Are L2ers' problems at the syntax-discourse interface situated at the level of processing and/or at the level of representation?

iii. What factor or combination of factors causes these problems? L1 influence? Input factors? Factors related to bilingual cognition?

iv. Is "narrow" syntax completely unproblematic at the end state of L2 acquisition? Or are there certain circumstances under which it causes problems?

v. Are the syntactic phenomena that interface internally with sub-modules of language less problematic at the end state of L2 acquisition than the syntactic phenomena that interface with domains external to the language faculty, such as discourse and pragmatics?

In conclusion, researchers still have much work ahead of them to piece together the puzzle of L2 acquisition at the interfaces.

7.7. Summary

To summarise, over the last decade, linguistic interfaces have been investigated by a large number of studies in the field of GenSLA. Their results converge in showing that the syntax-discourse interface generally poses developmental problems for L2ers, but diverge with respect to a crucial point: its ultimate acquirability. At present, there are two opposing hypotheses on this issue: (i) the IH and (ii) the LIH. On the one hand, the IH proposes that, while "narrow" syntax and the so-called internal interfaces are largely unproblematic at the end state of L2 acquisition, the syntax-discourse interface is inevitably a locus of residual, but permanent, optionality, because L2ers are less than optimally efficient at integrating syntactic and contextual information in real-time language use as a by-product of bilingualism (cf. Sorace, 2011c). On the other hand, the LIH claims that residual optionality is not an inevitable consequence for all syntax-

discourse structures, and that such structures are only problematic at the highest level of ultimate attainment when their properties are different in the L1 and the L2, and the evidence available in the input is not transparent (e.g., because the interface structure is rare). At this point, it is far from clear whether any of these hypotheses is correct not only because previous GenSLA studies yielded mixed results, but also because many of them exhibit methodological problems such as the following: (i) use of non-near-native participants for testing the IH, (ii) exclusive use of untimed offline tasks, such as acceptability judgement tasks, and (iii) no consideration of input factors. Further research is, therefore, needed.

Chapter 8

The present study: Research questions and methodology

8.1. Introduction

With a view to advancing our knowledge of ultimate attainment at the syntax-discourse interface and determining whether, at the end state of L2 acquisition, this interface is more problematic than "narrow" syntax and the internal interface between lexicon and syntax, the present thesis investigates the acquisition of two SVI structures which involve the lexicon-syntax and syntax-discourse interfaces – light locative inversion and light presentational *there*-constructions − and of two interrelated syntactic properties − the unavailability of "free" inversion and of null subjects − by advanced and near-native L2ers of English who are native speakers of EP and French (table 8.1).[126]

Linguistic phenomenon	***Specific properties whose acquisition will be investigated***	***Linguistic domain(s) involved***
Light locative inversion (hereafter, locative inversion)	Distribution of intransitive verbs	Lexicon-syntax-discourse interface[127]
	Discourse contexts where locative inversion is admitted	Syntax-discourse interface
Light presentational *there*-constructions (hereafter, presentational *there*-constructions)	Type of overt expletive subject that admits expletive-associate inversion (*it* vs. *there*)	Lexicon-syntax[128]
	Distribution of intransitive verbs	Lexicon-syntax-discourse interface
	Discourse contexts where *there*-constructions are admitted	Syntax-discourse interface
"Free" inversion	(Un)acceptability of "free" inversion in narrow and sentence focus contexts	"Narrow" syntax
Null subjects	(Un)acceptability of null referential and expletive subjects	"Narrow" syntax

Table 8.1. *The linguistic phenomena and domains investigated in the present thesis*

[126] For an overview of the differences and similarities among these languages, cf. chap. 6, section 6.4.

[127] Recall that, in light locative inversion and *there*-constructions, the verb must be unaccusative-like (lexical-syntactic constraint) and compatible with the presentational discourse function of locative inversion (discourse constraint). Pragmatic factors are also relevant in the case of unergative verbs, since these verbs oscillate between unergative and unaccusative behaviour according to pragmatic factors such as their predictability and noteworthiness in relation to the subject (cf. chapter 4).

[128] Recall that English syntax requires expletives to be overt, but it is the mapping system between lexicon and syntax that decides the syntactic behaviour of each overt expletive available in the mental lexicon.

As noted in chapter 7, SVI structures and null subjects have been little investigated in advanced English, and have not yet been studied at the highest possible level of ultimate attainment in L2 English – the near-native level. Yet their acquisition at these levels of proficiency is worthy of investigation for two main reasons. The first is that previous studies on L2 English indicate that syntax is the main source of prolonged difficulties in the acquisition of SVI and pronominal subjects by the L2ers of English who have a NSL as their L1, but provide no information about these L2ers' performance at the highest possible level of ultimate attainment, which prevents us from drawing firm conclusions about the validity of the IH (cf. chap 7, section 7.3.2). The second reason is that the acquisition of locative inversion and presentational *there*-constructions in L2 English constitutes an ideal ground for testing the IH against the LIH thanks to two facts: first, these constructions are infrequent in English and seldom taught in English courses (cf. Biber et al., 1999; Dorgeloh, 1997; Haegeman & Guéron, 1999; among others); and, second, they behave very much alike in English and French, but crucially not in EP (cf. chap. 6, section 6.4). Given these characteristics, the IH and the LIH make different predictions about the outcome of the L2 acquisition of locative inversion and *there*-constructions. In very general terms, the LIH predicts that French speakers will completely converge with English, while EP speakers will not. The IH, in contrast, predicts that both groups of L2ers will display some level of optionality in their performance at the end state of acquisition.

In the present thesis, the final stages of the acquisition of SVI and pronominal subjects in L2 English are investigated in an experimental study which comprises three interrelated sub-studies: (i) a study on null subjects, "free" inversion and their potential correlation (presented in chapter 9); (ii) a study on the acquisition of locative inversion (presented in chapter 10); and (iii) a study on the acquisition of presentational *there*-constructions (presented in chapter 11). In order to ensure comparability of results, the three sub-studies use the same methods of data collection and the exact same groups of participants.

The research questions that motivated the three sub-studies and their methodology are presented in this chapter, which is organised as follows: section 8.2 lists the general research questions that the three studies aim to answer, and presents the predictions made by different theoretical hypotheses about the end state of L2 acquisition. In section 8.3, I describe the participants' socio-linguistic background.

Section 8.4 presents the experimental tasks used in the studies and the rationale for their use. In section 8.5, I explain how results were statistically analysed. Finally, section 8.6 summarises the main points of this chapter.

8.2. General research questions and predictions

Given the properties of SVI in English, French and EP, described in chapters 3 to 6, and the current state of the art, summarised in chapter 7, the following general research questions were formulated:

RQ1 Do near-native and/or advanced L2ers exhibit optionality with respect to the discourse-conditioned properties of locative inversion and *there*-constructions, regardless of whether their L1 is similar to or different from the L2?

RQ2 If advanced and/or near-native L2ers exhibit difficulties at the syntax-discourse interface regarding locative inversion and *there*-constructions, are these difficulties an effect of bilingual processing or are they caused by other factors (e.g., L1 influence on linguistic representations)?

RQ3 Do near-native and/or advanced L2ers fully converge with English with respect to the "purely" (lexical-)syntactic properties of SVI and pronominal subjects, regardless of whether their L1 is similar to or different from the L2?

RQ4 In advanced and near-native grammars of English, is there a correlation between ...

4.1. the (un)availability of referential null subjects and the (un)availability of "free" inversion in narrow focus contexts?

4.2. the (un)availability of null expletives/locatives and the (un)availability of "free" inversion in sentence focus contexts?

The IH and the LIH make different predictions with respect to research questions 1 to 2:

Predictions on RQ1

i. ***IH:*** L2ers of English will display some level of optionality with respect to the discourse properties of locative inversion and *there*-constructions

at advanced and near-native levels, regardless of the properties of their L1. However, at least in some cases, this optionality may only be captured by online or speeded offline tasks.

ii. ***LIH:*** French L2ers of English will behave native-like with respect to locative inversion and presentational *there*-constructions, particularly at a near-native level. In contrast, advanced and near-native EP L2ers of English will display divergence with respect to the syntax-discourse properties which are different in their L1 and L2.

Predictions on RQ2

i. ***IH:*** L2ers problems will be, at least partly, caused by inefficiencies in the integration of (lexical-)syntactic and discourse information in real-time language use, which are a by-product of bilingualism and will occur even when their underlying linguistic representations are target-like.[129] (Note that, even at a near-native level, the co-occurrence of L1 influence effects in addition to processing inefficiencies is not ruled out by the IH).

ii. ***LIH:*** Advanced and near natives' problems with respect to locative inversion and presentational *there*-constructions will be caused by the influence of their L1 on their L2 representations and the fact that these types of inversion are infrequent in English (cf. chapter 4). Due to the latter fact, deviant L1-based hypotheses about locative inversion and presentational *there*-constructions will remain largely unchallenged, which will lead to persistent divergence in L2 grammars.

As explained below, the only hypothesis that makes predictions about research question 3 is the IH:

Predictions on RQ3

i. ***IH:*** The (lexical-)syntactic properties of SVI structures and pronominal subjects will be completely unproblematic for near-native speakers, regardless of whether their L1 is similar to or different from the L2.

[129] The prediction is that if near-natives' problems are a by-product of bilingual processing both French and Portuguese near-native speakers of English should have no problems at a syntactic level and should display residual optionality with respect to the discourse properties of locative inversion and *there*-constructions, thus behaving differently from the English monolinguals.

However, the possibility of developmental problems at an advanced level is not ruled out by the IH.

ii. ***LIH:*** This hypothesis has been proposed to explain the patterns of deviant behaviour found at the syntax-discourse interface and, to the best of our knowledge, has not been extended to other domains, such as "narrow" syntax and the lexicon-syntax interface. For this reason, it does not make predictions about RQ3.

In what concerns question 4, there is no previous GenSLA research to guide the formulation of predictions, as all the studies that analysed the relation between null subjects and "free" SVI yielded mixed results and generally ignored a variable which may have confounded their results: discourse conditions (cf. chap. 7, section 7.3). Nonetheless, based on the findings of recent work on different types of NSLs (e.g., Costa & Figueiredo Silva, 2006; Nicolis, 2008; among others), which are reviewed in chapter 3, it is possible to make the following predictions:

Predictions on RQ4

i. If the native speakers of EP transfer "free" inversion from their L1 to the L2, this type of inversion will only be admitted in sentence focus contexts by the speakers who allow expletive null subjects.

ii. If native speakers of EP transfer "free" inversion from their L1 to the L2, this type of inversion will only be admitted in narrow focus contexts by the speakers who permit referential null subjects.

8.3. Participants

A total of 26 monolingual speakers of English, 26 French L2ers of English and 28 Portuguese L2ers of English participated in this study. The native speakers of English were university students, between the ages of 18 and 52, of British (57,7%), North American (34,6%) and Australian (7,7%) origin, who lived in Scotland and had no advanced competence in an L2, although they had received formal language instruction at school. The L2ers of English were university students, with ages ranging from 18 to 46, who were first exposed to this language in an instructional context, between the ages of 8 and 13, attained either a near-native or an advanced level of

proficiency in English, and never learned any other non-native language to the same level.

L2ers were divided into four groups according to their L1 and proficiency level in English: (i) a group of advanced French L2ers of English (*n*=15), (ii) a group of near-native French L2ers of English (*n*=11), (iii) a group of advanced Portuguese L2ers of English (*n*=17), and (iv) a group of near-native Portuguese L2ers of English (*n*=11). The participants who were included in the advanced groups either had no experience of living in English-speaking countries or lived in one of these countries for a relatively short period of time (generally less than a year). The participants included in the near-native groups, on the other hand, were either resident in Scotland at the time of testing or had recently lived in an English-speaking country for a minimum of one academic year. In the latter case, despite not living in an environment where English is spoken by the broader community, near-native participants continued to use this language on a daily basis for one of two reasons: either because English is one of their main languages of work/study or because their spouses are native speakers of English. Details about the participants' socio-linguistic background are provided in tables 8.2 and 8.3.

Group	***Age***		***Education***	
	Mean	**SD**	**Undergraduate students**	**Postgraduate students**
L1 EP - L2 English				
Near-native	31.09	9.23	27%	73%
Advanced	24.88	8.86	53%	47%
L1 French - L2 English				
Near-native	21.73	2.60	27%	73%
Advanced	21.00	1.59	40%	60%
L1 English	23.10	6.70	54%	46%

Table 8.2. *Participants' age and level of education*

Group	*Age of onset of English acquisition*		*Years of English language learning in an instructional setting*		*Years of residence in an English-speaking country*	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
L1 EP - L2 English						
Near-native	9.09	1.08	12.64	3.42	3.47	4.85
Advanced	8.94	1.26	10.06	2.44	0.60	0.89
L1 French - L2 English						
Near-native	11.09	1.38	8.36	2.67	3.73	3.29
Advanced	9.33	1.66	11.27	2.05	0.93	0.39

Table 8.3. *L2ers' age of onset, years of English language learning and length of residence in an English-speaking country*

The native speakers of English, the French L2ers and two Portuguese L2ers of English were recruited and tested in Edinburgh. The other EP-speaking participants were recruited and tested in Lisbon.[130] Rigorous selection criteria were applied: L2ers of English were selected for inclusion only if they had not learned any language other than their L1 in childhood (i.e., from birth until the age of 7), had started to learn English at or above the age of 8, and declared this language to be the first non-native language they had learned.[131] These criteria served the purpose of ensuring that all non-native participants were late L2ers of English.

In the selection criteria, the lower boundary for age of onset was set at 8 for two reasons. The first is that most of the native speakers of EP and French who were university students at the time of testing had started learning English in their primary school years. The second and most important reason is that the age of 8 is often assumed to mark the boundary between child and adult L2 acquisition (see, in particular, Meisel, 2008). Support for this view comes from studies on age and L2 ultimate attainment, such as DeKeyser (2000) and Johnson and Newport (1989, 1991), which show that children who are first exposed to the L2 before the age of 8 perform native-like with respect to a variety of morphosyntactic phenomena, and that, after that

[130] For practical reasons, it was impossible to recruit and test all EP speakers in an English-speaking country. Even though I recognise that, in an ideal case scenario, all L2ers should have been recruited and tested in a similar environment, the fact that all participants were selected according to the same criteria and subject to the same proficiency assessment procedure ensures the comparability of results within and across groups.

[131] It was important to ensure that English was an L2 and not an L3 for all non-native participants, because some recent studies have shown that there are significant asymmetries between L2 and L3 acquisition at the syntax-discourse interface (cf. Sorace, 2011c).

age, the potential for native-like attainment gradually declines. These results are interpreted as evidence that L2 children whose onset is no later than the age of 7 may not use the same acquisition processes as the children who are first exposed to the L2 at or above the age of 8. In the light of this evidence, and given that this thesis focuses on adult L2 acquisition, the age of 8 was considered the most appropriate cut-off point for age of onset.

All participants completed a consent form and an anonymous socio-linguistic questionnaire (see Appendix A). Those who were L2ers of English were additionally subject to an adapted version of the screening procedure used by Sorace and Filiaci (2006) for assessing near-nativeness (see Appendix B), which was originally designed by White and Genesee (1996). As part of this screening procedure, they were individually interviewed face to face in English for about 10 minutes. A series of cartoons by Andy Singer on such topics as happiness, success, family, work, consumerism, advertising, technology and environment were used in the interviews (cf. fig. 8.1). In order to elicit free speech samples about both concrete and abstract topics, the interviewer asked participants not only to describe each cartoon in as much detail as possible, but also to interpret its message and say whether and why they (dis)agreed with it.

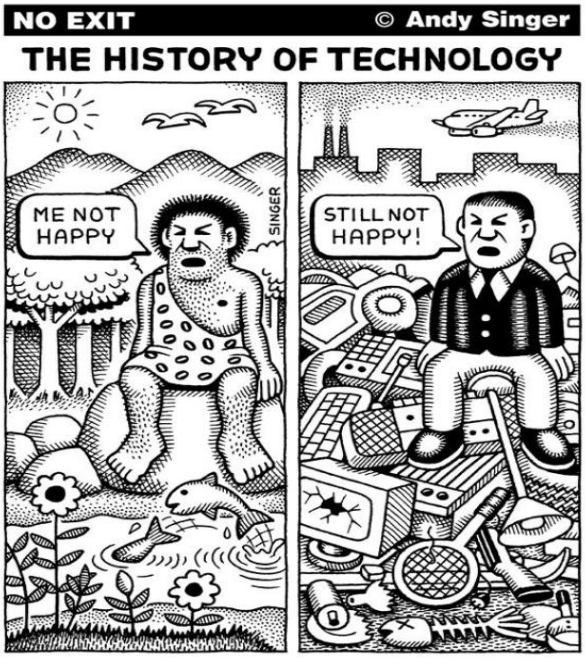


Fig. 8.1. *Sample cartoon used in the interviews*

After all interviews were completed, a short sample of speech (of about two minutes) was randomly selected from each interview and independently evaluated by

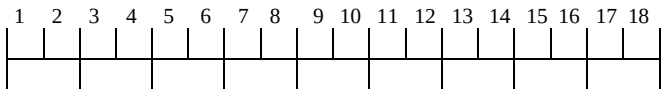
three monolingual speakers of (British) English with some training in linguistics. Each sample was evaluated for pronunciation, morphology, syntax, vocabulary, fluency and overall impression on a grid which had a 9 cm long straight-line below each criterion, labelled "non-native" at the left end and "native" at the right end, as in (1). The evaluators were instructed to put a cross on the lines according to the closeness of the speech to the native end. In order to ensure that the native end of the scale was interpreted with reference to real native speakers, excerpts of interviews from 10 English native speakers of Australian, American, English and Scottish origin were also included for evaluation.

(1) **SYNTAX**

NON-NATIVE_____NATIVE

To turn the judges' ratings into discrete values, a transparency with a 9-cm line divided into an 18-point scale, as shown in (2), was subsequently laid over the ratings.[132] The L2ers who the three judges rated between 17 and 18 on syntax, morphology and vocabulary and ≥ 16 on the remaining criteria, with a maximum of one exception,[133] were classed as near-natives.[134] Those who did not satisfy the criteria for near-nativeness and were attributed scores ≥ 15 on syntax, morphology and vocabulary and ≥ 13 on the other criteria, with a maximum of one exception,[135] were classed as advanced.

(2) ***18-point scale (1 point per 0,5 cm)***



Unlike Sorace and colleagues (e.g., Belletti, et al, 2007; Sorace & Filiaci, 2006), who adopt the same cut-off point for all criteria in their studies on near-nativeness (more precisely, ≥ 17 points with the maximum of one exception), I adopted a higher cut-off point for syntax, morphology and vocabulary than for pronunciation, fluency and overall impression for three reasons. First, it would make little sense to put the criterion "pronunciation" on an equal footing with "syntax", "morphology" and

[132] In the few cases where the cross drawn by the judge occupied two slots of the scale in equal proportion, I considered the judge's score to be the highest discreet value associated with the slots.
[133] The exceptions were usually phonological.
[134] This score range is similar to that of true native speakers, who occasionally received scores as low as 16 in the criterion "fluency".
[135] The exceptions were usually phonological.

"vocabulary", since it is well-known that adult L2ers do not generally achieve a native-like pronunciation even when their grammatical competence and lexical knowledge closely approximate those of native speakers (possibly due to maturational factors - cf. M. Long, 1990).[136] Second, I observed that, in many cases, a lower score in the criterion "pronunciation" negatively affected the score in the criterion "overall impression", which, consequently, weakened the reliability of the latter criterion for assessing near-nativeness and advanced proficiency. Finally, the criterion "fluency" was attributed a lower cut-off point than the criteria "syntax", "morphology" and "vocabulary", because native speakers themselves received a wider score range in this criterion (18 – 16 points) than in the remaining criteria (18 – 17 points). Due to these facts, attributing different weights to different criteria seemed to be the most appropriate way of assessing participants' proficiency. Crucially, the fact that, in the present study, the cut-off point for syntax, morphology and vocabulary was exactly the same as the one adopted in previous studies by Sorace and colleagues guarantees that our near-native L2ers' linguistic competence is comparable to that of Sorace's participants.

8.4. Experimental tasks: Description and rationale

All participants were tested on their knowledge and performance regarding pre- and post-verbal subjects in English by means of a battery of experimental tasks which placed different demands on their linguistic resources. The tasks were of three types: (i) untimed drag-and-drop tasks, (ii) syntactic priming tasks, and (iii) speeded acceptability judgement tasks. An overview of the structures and conditions tested by each type of task is presented in table 8.4.[137] All tasks were administered in random order in two sessions, which lasted up to 2h each. Each session included breaks within and between tasks and each task included a practice session of six items[138] so that participants could get used to its format. The design and (dis)advantages of each of the three types of tasks used in the study are described in detail in the present section.

[136] M. Long (1990), for example, suggests that the closure of the critical period for phonology may be as early as age six, while it may be around fifteen for morphology and syntax.
[137] More detailed information about the conditions tested by each task is provided in chapters 9 to 11.
[138] Participants were allowed to skip the practice session when they had already completed a task with the same format in the session.

Structure	*Variables tested*	*Tasks*
"Free" inversion	*Type of word order* (SV *vs.* VS) x *discourse context* (sentence focus *vs.* narrow subject focus context)	D&D SAJ
Pronominal subjects	*Type of pronominal subject* (null referential subject *vs.* null expletive subject) x *type of clause* (matrix *vs.* embedded clause)	D&D SAJ
Locative inversion	*Type of intransitive verb* (unaccusative verb of existence and appearance *vs.* unaccusative verb of change of state *vs.* redundant unergative verb *vs.* non-redundant unergative verb)	D&D SAJ SP
	Type of discourse context (stage topic+ wide focus *vs.* narrow subject focus *vs.* sentence focus *vs.* topic subject + focus on verb and locative)	D&D SAJ
***There*-inversion**	*Type of intransitive verb* (unaccusative verb of existence and appearance *vs.* unaccusative verb of change of state *vs.* redundant unergative verb *vs.* non-redundant unergative verb)	D&D SAJ SP
	Type of discourse context (narrow subject focus *vs.* topic subject + focus on verb and locative *vs.* sentence focus)	D&D[139] SAJ
	Availability of SVI with the expletive it	D&D[140] SAJ

Legend: D&D= drag-and-drop task; SAJ = speeded acceptability judgement task; SP = syntactic priming task

Table 8.4. *Overview of the experimental design*

8.4.1. *Drag-and-drop tasks*

Drag-and-drop tasks elicited participants' written production of pre- and post-verbal subjects in English. These experimental tasks were constructed and run on Microsoft PowerPoint.[141] In each item, participants were presented with a linguistic context and asked to create a minimum of 1 and a maximum of 4 continuations to the last sentence presented, by ordering the blocks of words provided to them. They were instructed to produce only continuations that they considered both well-formed in English and appropriate in the linguistic context provided to them. With the exception of a task on "free" inversion and of a task that tested the type of verbs admitted in locative inversion, all drag-and-drop tasks included two types of blocks of words: a set of blocks which had to be obligatorily used to form the sentence (marked with **red**) and a set of blocks which could be used optionally (marked with **green**). Each block

[139] The drag-and-drop task that focused on the discourse contexts with which *there*-constructions are compatible simultaneously collected data about the discourse contexts where L2ers produced locative inversion. Two types of blocks of words were used in this task: obligatory blocks (subject, verb and locative PP) and optional blocks (*there* and *it*).

[140] The drag-and-drop tasks on verb type and discourse contexts included "it" and "there" as optional blocks of words. Therefore, these tasks also allow us to test whether L2ers admit inversion with the expletive *it* in pre-verbal position.

[141] The PowerPoint files used in the experiments were formatted in a way that ensured that nothing was editable or movable, except for the blocks of words. To move a block of words, participants had to click on it and then drag and drop it.

included a sentence constituent (e.g., locative, subject, verb). To avoid bias, the order of constituents was randomised and two versions of each task were created. They only differed in the order of items and in the order of the blocks of words within each item. Sample items from the drag-and-drop tasks used in this study are presented in figs. 8.2 and 8.3.

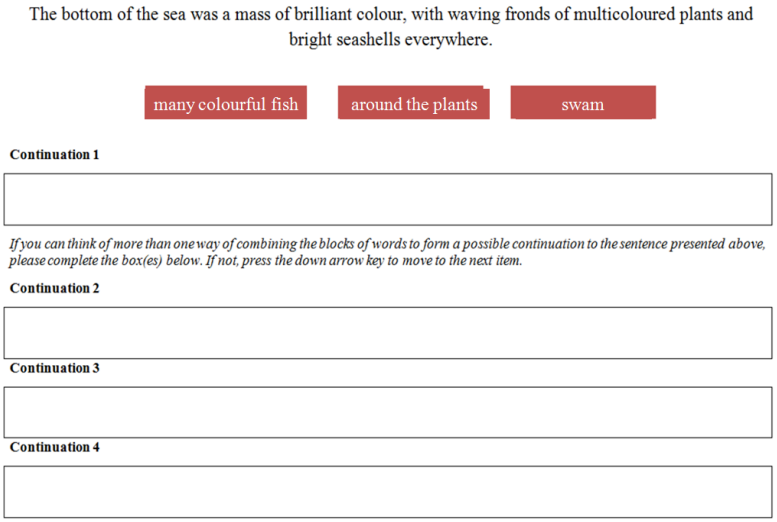


Fig. 8.2. *Sample item from a drag-and-drop task with obligatory blocks of words*

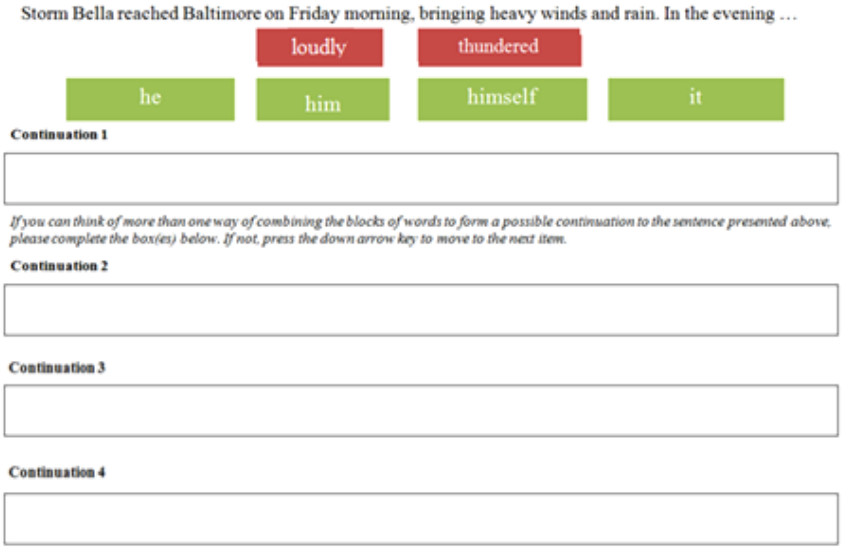


Fig. 8.3. *Sample item from a drag-and-drop task with obligatory and optional blocks of words*

As there is no time pressure in drag-and-drop tasks, generally, participants have time to reflect on their answers and modify their initial intuitions. For this reason, drag-and-drop tasks may not always capture optionality resulting from processing inefficiencies in real-time language use. In addition, they may fail to tap into implicit

knowledge representations (i.e., linguistic knowledge which is unconscious and available for use in spontaneous production and comprehension) in cases where L2ers have explicit knowledge (i.e., conscious knowledge of linguistic rules) about the properties under investigation. Despite these limitations, drag-and-drop tasks are used in the present thesis because, by combining untimed offline tasks like this one with tasks that tap into implicit knowledge and are more sensitive to processing-related issues, we may obtain a more complete picture of what goes on at the final stages of the acquisition of pre- and post-verbal subjects in L2 English.

8.4.2. *Syntactic priming tasks*

With a view to investigating how L2ers perform with respect to SVI structures in real-time language production, the present study uses a timed oral production task which explores a well-known psycholinguistic effect: syntactic priming (or structural priming). Syntactic priming refers to the tendency that speakers have to repeat the syntactic structure used in a preceding, unrelated sentence. It can assume two forms: (i) within-speaker priming, when the speaker repeats a structure that he/she used in a preceding sentence (e.g., Bock, 1986), and (ii) between-speaker priming, when the speaker uses a structure that his/her interlocutor recently produced during conversation (e.g., Branigan, Pickering, & Cleland, 2000). Syntactic priming effects occur because the mental representations which are activated by a speaker when he/she produces or hears a particular syntactic structure do not decay immediately and increase the likelihood that the same structure will be used again. These effects have been widely attested in L1 and L2 speech production, with a variety of structures in numerous languages (for an overview, cf. Branigan, 2007; Pickering & Branigan, 1999; Pickering & Ferreira, 2008).

One of the first studies to document syntactic priming was conducted by Bock (1986). Under the guise of a memory task, she asked adult L1 speakers of English to repeat a stimulus sentence – the prime – and then describe a semantically unrelated picture by producing a sentence – the target. Primes consisted of dative constructions with either a prepositional object (3a) or a double object (3b) and transitive sentences in either the active (4a) or the passive voice (4b).

(3) a. The rock star sold some cocaine to an undercover agent.
b. The rock star sold an undercover agent some cocaine.

(4) a. One of the fans punched the referee.

b. The referee was punched by one of the fans.

Results showed that the form of the prime affected the form of the target description. Speakers were more likely to use a prepositional object description of the target picture (e.g., "The man is reading a story to the boy") after repeating sentence (3a) than after repeating sentence (3b). Likewise, they were more likely to produce a double-object description (e.g., "The man is reading the boy a story") after sentence (3b) than after sentence (3a). Similar effects were found with active and passive sentences. Speakers were more likely to use an active description of the target picture (e.g., "lightning is striking the church*"*) after sentence (4a) than after sentence (4b) and a passive description (e.g., "the church is being struck by lightning") after sentence (4b) than after sentence (4a). Hence, these speakers were syntactically primed.[142]

Since the publication of Bock's (1986) seminal study on syntactic priming, a large body of work has shown that the occurrence of this type of priming is not dependent on any similarities between prime and target sentences beyond the purely syntactic ones. For example, syntactic priming is observed even when prime and target sentences have no lexical items in common (Bock, 1986, 1989; Ferreira, 2003; Pickering & Branigan, 1998), though its effect is larger when the two sentences share content words (Cleland & Pickering, 2003; Pickering & Branigan, 1998). Priming also occurs in the absence of any semantic similarities between prime and target sentences (Bock & Loebell, 1990). Moreover, syntactic priming is insensitive to whether prime and target sentences have similar or distinct verbal inflection (Pickering & Branigan, 1998). In the light of these facts, it can be concluded that, as Pickering and Ferreira (2008: 453) point out, "priming gives good evidence for syntactic knowledge that uses representations that are independent of conceptual, lexical, and phonological knowledge".

In recent years, some developmental linguists have resorted to syntactic priming tasks to investigate the linguistic systems of child L1 acquirers (e.g., Shimpi, Gámez, Huttenlocher, & Vasilyeva, 2007) and adult L2ers (e.g., Flett, 2006, 2013; Schütter, 2013). Two assumptions underlie the use of these tasks in developmental linguistic research. The first is that if a structure is (even marginally) possible in the speaker's

[142] Note that priming changed the relative likelihood of producing one structure or another, but it did not uniquely determine which one was produced.

grammar, it should be possible to prime it. The second is that, in principle, it should be impossible to prime what is ungrammatical in the speaker's mental grammar. In fact, priming of ungrammatical sentences has only been attested under very specific conditions. For example, recent work by Ivanova, Pickering, McLean, Costa, and Branigan (2012) shows that native speakers of English are primed into producing ungrammatical verb-construction combinations, such as "*The dancer donates the soldier the apple"[143], when the prime sentence contains the same construction and the exact same verb as the target (e.g., "*The waitress donates the monk the book"), but crucially not when it contains the same construction with a similar and yet different verb (e.g.,"The waitress gives the monk the book"). These results have been interpreted as evidence that speakers "form associations between individual verbs and a construction on an item-by-item basis" (Ivanova et al, 2012: 8). More importantly for our purposes here, these results suggest that, to avoid the methodologically-induced ungrammaticality reported by Ivanova et al (2012), prime and target sentences must not share the same verb.

In the present thesis, syntactic priming tasks were used to test locative inversion and *there*-constructions. These tasks were constructed on *PsychoPy*[144] and followed the structure of the timed priming tasks designed by Schütter (2013). In each item, participants had to carry out two interrelated subtasks: (i) a sentence-picture matching task, and (ii) a picture description task. In the first subtask, they read out loud a prime sentence that appeared for 4 seconds in the middle of the computer screen. Then, they were shown a configuration of pictures and asked to indicate within 4 seconds whether or not the sentence and the pictures matched by pressing Y for "yes" and N for "no". In the second subtask, another configuration of pictures would appear on the screen with "..." underneath it to indicate a response was required. Participants had to describe the pictures out loud within 5 seconds, thereby producing the target structure or a different one.[145] In this task, as in all syntactic priming tasks, in general, prime and target had to be presented without a context, because priming effects decay rapidly when these

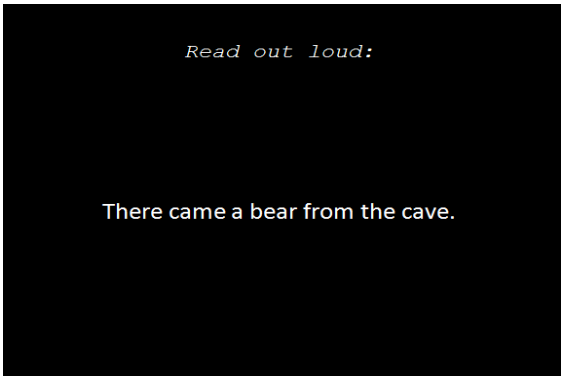
[143] Unlike the verb "give", the verb "donate" cannot participate in a double object construction.

[144] *PsychoPy* is a free software that can be used to construct and perform a wide range of psycholinguistic and neurolinguistic experiments (Peirce, 2007, 2009). The software was developed by researchers at the University of Nottingham and is downloadable from: <http://www.psychopy.org/> [accessed on January 2016].

[145] The assumption is that if the syntactic structure in the prime sentence is possible for the participant, he/she is likely to be primed into producing it at this point. Conversely, if it is impossible, he/she will not produce it.

sentences are separated by other sentences with unrelated syntactic forms (Branigan, Pickering, & Cleland, 1999).

Following standard practice, the prime-target pairs of the tasks used in the present study consisted of highly frequent lexical items and images of easily recognisable locations (e.g., castle, stage), animals (e.g., fish, birds), objects (e.g., diamond, clock) and human beings (e.g., fire-fighter, witch, princess). Each configuration of images included (i) a picture of a location accompanied by a preposition, (ii) a verb in print and (iii) a picture of the subject referent. In the tasks that tested *there*-constructions, the verb was placed above the picture of the subject, as in fig. 8.4. In contrast, in the tasks that focused on locative inversion, the verb was placed between the picture of the subject referent and the one of the location (cf. fig. 8.5), because this is the place where the verb occurs in this type of inversion. In all tasks, the picture of the subject referent was linked to the one of the location by means of an arrow. These pictures were presented in the same order within any given prime-target pair and in alternating order across pairs. As a result, each type of picture was presented as many times on the left-hand side of the computer screen as it was on the right-hand side. To avoid bias, two versions of each syntactic priming task were created. These differed with respect to the order of items and the order of the images within each item. In all items, the prime sentence contained a different location, subject and verb from the image used to elicit the target sentence. There were, however, two similarities between the verb of the prime sentence and that of the target sentence: they both belonged to the exact same verb subclass and were inflected in the simple past. Two sample items of syntactic priming tasks are presented in fig. 8.4 and fig. 8.5.



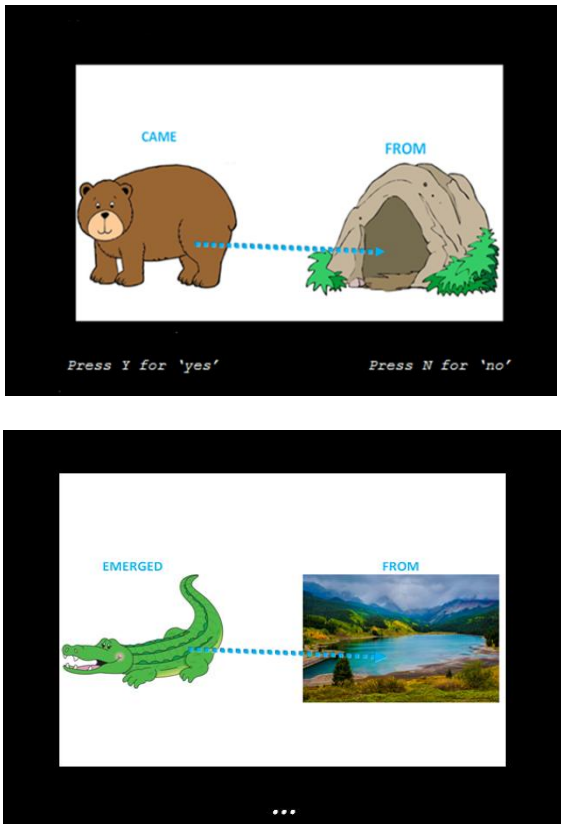
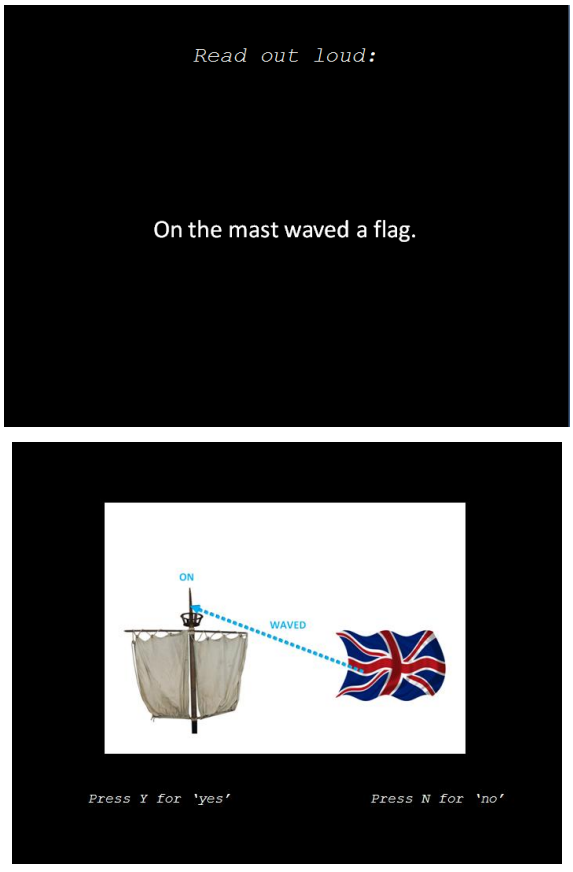


Fig. 8.4. *Sample item from a syntactic priming task on* there*-constructions*



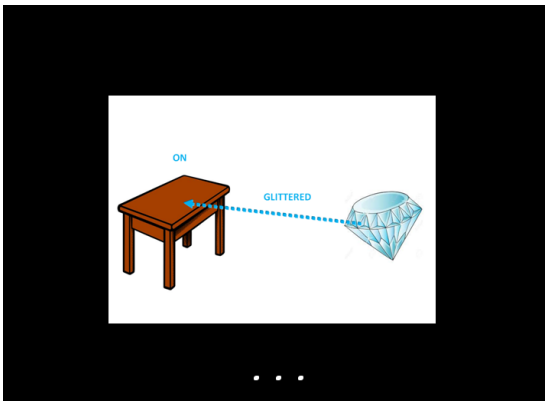


Fig. 8.5. *Sample item from a syntactic priming task on locative inversion*

The syntactic priming tasks just described can be regarded as online tasks, since they "involve real-time linguistic processing within the same time span as it takes the participant to utter a sentence" (Schütter, 2013: 80). The time pressure they create, on the one hand, prevents conscious monitoring of production and, on the other, places significant load on participants' processing resources. Consequently, these tasks may capture processing inefficiencies that could remain unnoticed in untimed offline tasks, like drag-and-drop tasks. This is why timed syntactic priming tasks were included in the present study.

8.4.3. *Speeded acceptability judgement tasks*

In order to collect data on how L2ers perform under time pressure, the present study resorted not only to the syntactic priming tasks described in 8.4.2, but also to a type of task that has long been used to investigate L1 speakers' processing strategies (e.g., Ferreira & Henderson, 1991; Meng & Bader, 2000), and is now gaining in popularity among GenSLA researchers (e.g., Hopp, 2007; Schütter, 2013): speeded acceptability judgement tasks.[146] These tasks have an important advantage over syntactic priming tasks: they can be used to test all types of linguistic properties, including those which can only be appropriately tested when embedded in a context, such as "free" inversion. Given this flexibility, in the present work, speeded acceptability judgement tasks were used to test all the structures under study.

[146] In psycholinguistic literature, these tasks are generally called "speeded grammaticality judgement tasks". However, the tasks used in the present study are best described as speeded acceptability judgement tasks, because, contrary to the standard practice in the field, they do not ask participants to judge sentences categorically as either grammatical or ungrammatical. Rather, they require them to use an acceptability scale, which allows for gradience.

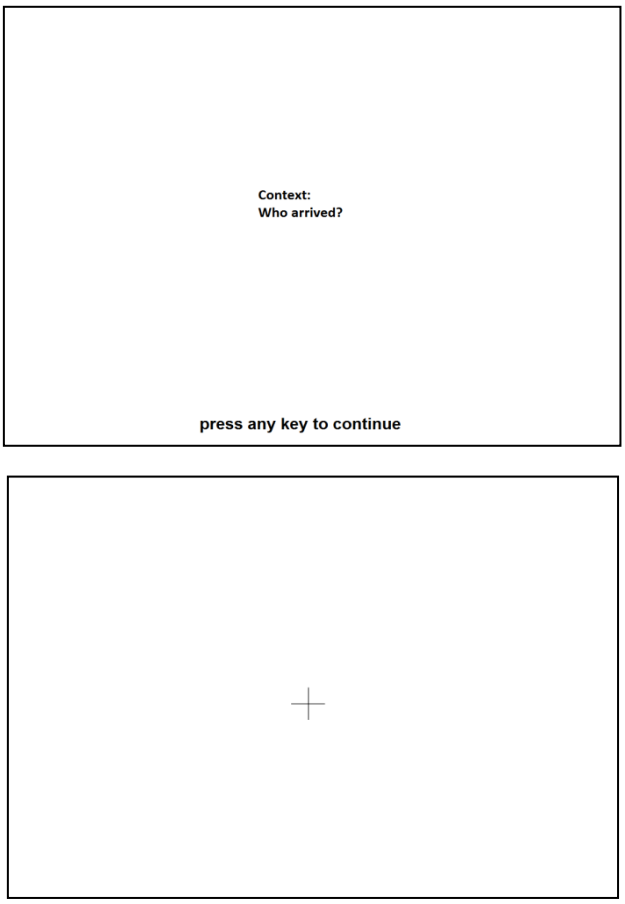
Speeded acceptability judgement tasks are a subtype of acceptability judgement task which requires participants to make a judgement as quickly as possible in response to a sentence presented word-by-word at a rate slightly above normal reading speed. Speeded acceptability judgement tasks are classified as offline tasks, since they measure the outcome of sentence processing, rather than real-time processing. However, it is widely accepted that these tasks can provide information about language processing thanks to their fast pace, which forces the parser to follow its preferred parsing route, prevents complete reanalyses of experimental sentences, and places significant load on speakers' processing resources (cf. Hopp, 2007; Sorace, 2011c). In addition to being a source of information about processing, this type of task is a validated measure of implicit knowledge (cf. Bowles, 2011; Ellis, 2005; Ellis et al., 2009).

The speeded acceptability judgement tasks used in the present work differ from the ones employed in previous research in two main respects. First, unlike what happens in most tasks of this kind, in the speeded acceptability judgement tasks designed for this study, the sentence to be judged was embedded in a linguistic context. This is because the linguistic phenomena on which the study focuses are subject to discourse conditions (cf. Part I) which must be carefully controlled for. Second, contrary to most speeded acceptability judgement tasks, the ones used here do not elicit binary judgements from participants. They require them to use an acceptability scale of 1 to 5, where 1 means "totally unacceptable" and 5 means "totally acceptable". This scale was adopted after pilot tests revealed that English native speakers' judgements about locative inversion and *there*-constructions were gradient rather than categorical, and further, that their judgements were much more consistent when they used a 1-to-5 scale than when they had to express their intuitions on a binary scale. To ensure comparability of results, this scale was adopted not only in the tasks that tested locative inversion and *there*-constructions, but also in the ones which focused on "free" inversion and null subjects.

All speeded acceptability judgement tasks were run on *Linger*[147] and structured as follows. First, participants had to read a linguistic context, consisting of one to two sentences, which were presented as a block without any time constraints. When participants were ready to proceed, they pressed the spacebar and a fixation cross then appeared in the centre of the screen. After 1050 ms, a sentence appeared word by word

[147] *Linger* is a free software package developed by researchers from the Massachusetts Institute of Technology for performing sentence processing experiments. It is downloadable from <http://tedlab.mit.edu/~dr/Linger/> [accessed on November 2014].

(in a non-cumulative way) at a rate of 400 ms per word, which is assumed to be long enough to allow speakers to complete all normal comprehension processes, like lexical access, syntactic integration, and semantic interpretation, but too short for them to check explicit knowledge and monitor their answers (Bader & Häussler, 2010). After the presentation of the final word of the sentence, participants had to judge the acceptability of the sentence in the context where it was embedded, using a scale of 1 (totally unacceptable) to 5 (totally acceptable). Participants were instructed to answer as fast as possible and mark 3 if they had no clear feeling for whether the sentence was acceptable or not. Both their responses and response times following the off-set of the final word in the sentence were recorded. A sample item is presented in fig. 8.6.



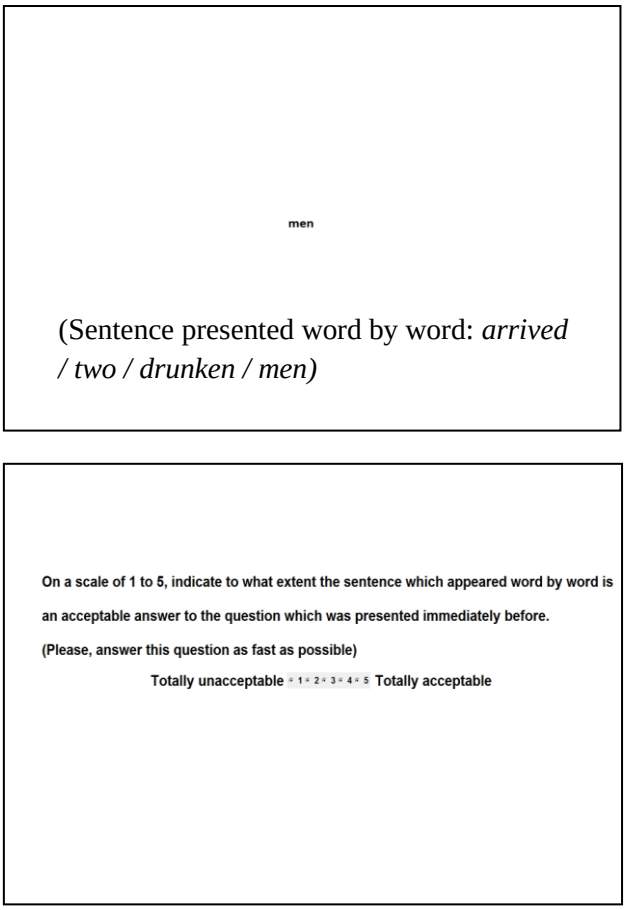


Fig. 8.6. *Sample item from a speeded acceptability judgement task*

To test whether participants were paying attention to the experimental items, every task included one attention check question after every 10 items. Attention check questions were structured exactly like experimental items, but what was presented word by word in these questions was not a sentence to be judged, but rather one of the following instructions: "to show that you are paying attention press [number]" or "press [number] to show that you are paying attention". The participants who failed to correctly answer these questions by pressing the number indicated in the instruction were excluded from the study. This only happened in two cases.

The speeded presentation of the stimuli and the fastness required in participants' answers have two important linguistic consequences. On the one hand, they do not give participants sufficient time to either proceed to a complete reanalysis of the sentence or access explicit knowledge, which forces them to base their judgments on their spontaneous first assessment of the acceptability of the sentence (cf. Bader & Haüssler, 2010; Hopp, 2007, for details). On the other hand, the fast pace of the task places extra load on speakers' processing resources (Sorace, 2011c), which may lead to processing

inefficiencies in populations and linguistic areas that are more sensitive to cognitive load. For this reason, speeded acceptability judgement tasks may capture interface problems stemming from processing inefficiencies, which other offline tasks may fail to capture.

In sum, the tasks used in the present study place very different demands on L2ers' resources. In fact, while drag-and-drop tasks allow for the application of explicit knowledge and do not impose significant strain on processing, syntactic priming tasks and speeded acceptability judgement tasks block interference from explicit knowledge and put considerable load on participants' processing resources. Since each of the structures considered in the present study were tested by at least two types of tasks, the results of the study can provide us with a fairly complete picture of what goes on in the grammar proper and at the syntax-discourse interface at both advanced and near-native levels.

8.5. Statistical analysis

Data analysis was conducted using mixed effects models. This statistical approach has two important advantages over the traditional analysis of variance (ANOVA). The first is that, unlike ANOVA, mixed effects models do not require balanced data sets (Quené & van den Bergh, 2004, 2008).The second is that these models are able to account not only for fixed effects (i.e., the independent variables manipulated by the researcher), but also for random effects (i.e., variables whose values represent a random sample of all possible values). As a result, they have a lower risk of capitalization on chance than ANOVA (Baayen, Davidson, & Bates, 2008; Jaeger, 2008; Quené & van den Bergh, 2008; among others).

Following standard practice in (second) language research (cf. Baayen et al., 2008; Cunnings, 2012; Linck & Cunnings, 2015; among others), in the present study, subjects and items were modelled as crossed random effects[148] and the independent variables manipulated in each experiment were modelled as fixed effects. The levels within each fixed effect were contrast coded as follows (for details on contrast coding, cf. UCLA

[148] Subjects are a random effect, because they were randomly sampled from a population of speakers. Items are also a random factor, since they are only a sample of the relevant linguistic materials rather than the complete population to which results will be generalized. Thus, modelling items as random effects provides a satisfactory solution to what Clark (1973) calls "the language-as-a-fixed-effect fallacy" (Baayen et al., 2008; Cunnings, 2012; Quené & van den Bergh, 2008).

Statistical Consulting Group, 2011): (i) 0.5 *vs.* -0.5 to contrast two levels within the same fixed effect (e.g., control group = 0.5 *vs.* group of advanced Portuguese speakers of English = -0.5; unaccusative verbs of existence and appearance = 0.5 vs. unaccusative verbs of change of state = -0.5), and (ii) 0.75 *vs.* -0.25 to contrast a level with three other levels within the same fixed effect (e.g., unaccusative verbs of existence and appearance = 0.75 *vs.* redundant unergative verbs = -0.25 + non-redundant unergative verbs = -0.25 + unaccusative verbs of change of state = -0.25).

Two types of analyses were conducted: within-group analyses and between-group analyses (e.g., control group *vs.* group of advanced EP speakers of English). Following Linck and Cunnings (2015), these analyses included random intercepts for subjects and items, by-subject random slopes for all within-subjects variables and their interaction, and by-item random slopes for group (in between-group analyses only).[149] [150]

All statistical analyses were conducted with the *lme4* package of R (version 3.3.3). I used the function *lmer* (linear mixed effects regression) to analyse the results from the speeded acceptability judgement tasks, and the function *glmer* (generalized mixed effects regression), with the specification "family=binomial", to analyse the results from drag-and-drop tasks and syntactic priming tasks. This is because the latter tasks have binary outcomes – e.g., absence/presence of locative inversion (codified as PPVS = 1 and no PPVS = 0) –, which, according to recent research (e.g., Jaeger, 2008; Linck & Cunnings, 2015; Quené & van den Bergh, 2008), are best analysed by means of mixed logit models.

As the function *glmer* generates output with *p* values and the function *lmer* provides *t* values but not *p* values, the present study uses *p* and *t* values as measures of significance. Following standard practice (cf. Gelman & Hill, 2007; Linck & Cunnings, 2015), a fixed effect was considered significant if the *p* value was less than or equal to 0.05 or if the absolute *t* value was greater than or equal to 2.00. Whenever there were doubts as to whether a *t* value was marginally significant, the *p* value was estimated from the *t* distribution using the following formula proposed by Baayen (2008: 248):

(5) 2 * (1 - pt(abs(X), Y - Z))

[149] Random slopes are required to account for the random variation in repeated measures.
[150] The factor "group" was manipulated within items, because the same items were presented to all groups of participants. A random slope is therefore necessary to account for these repeated measures (Linck & Cunnings, 2015).

Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. Following standard practice, a *p*-value was deemed marginally significant when its value was greater than 0.05 and less than 1.

8.6. Summary

In sum, the main purpose of the present study is to test the IH and the LIH. The study comprises three interrelated sub-studies: (i) a study on null subjects, "free" inversion and their potential correlation, which is presented in chapter 9; (ii) a study on the acquisition of the discourse and (lexical-)syntactic properties of locative inversion, which is described in chapter 10; and (iii) a study on the acquisition of the discourse and (lexical-)syntactic properties of presentational *there*-constructions, which is presented in chapter 11. All sub-studies used at least two of the following types of tasks: (i) untimed drag-and-drop tasks, (ii) syntactic priming tasks and (iii) speeded acceptability judgement tasks. Given that these tasks place very different demands on L2ers' resources, together, their results will provide us with a fairly complete picture of what goes on in the grammar proper and at the syntax-discourse interface at both advanced and near-native levels, which, in turn, will help us assess the validity of the IH and the LIH on solid grounds.

Chapter 9

The syntax of subjects in advanced and near-native English

9.1. Introduction

"Free" inversion and null subjects are among the cluster of syntactic properties that distinguish NSLs, like EP, from NNSLs, like English and French. As described in detail in chapter 3, the early studies on these phenomena (cf. Burzio, 1986; Chomsky, 1981; Rizzi, 1982) generally assumed that their availability depended on a positive setting for the NSP, which was then conceived as a macro-parameter with two open values: a positive and a negative one. However, over the past decades, a large number of (cross-)linguistic studies have shown (i) that not all natural languages fall on one side or the other of the traditional [+ NSP]/[- NSP] divide, and (ii) that null subjects and "free" inversion correlate in a more complex way than initially thought. On the one hand, the availability of "free" inversion in sentence focus contexts depends upon the availability of null expletive subjects and locatives as possible EPP-satisfiers (Costa, 1998, 2004; Costa & Figueiredo Silva, 2006; Pinto, 1997; Sheehan, 2007, 2010), which, in turn, is dependent on the negative setting of a PF-interpretability condition on Spec, IP (Sheehan, 2007). On the other hand, the availability of "free" inversion in narrow subject focus contexts depends (at least partially) upon the availability of null referential subjects[151] (Belletti, 2005a, 2005b, 2010; Costa & Figueiredo Silva, 2006; Nicolis, 2008), which, in turn, depends upon two factors: (i) a negative setting for the PF-interpretability micro-parameter, and (ii) a positive setting for the rich agreement micro-parameter (cf. Sheehan, 2007). In other words, I must have an uninterpretable D-feature.

In the field of GenSLA, the NSP has been investigated by a large number of studies. As shown in chapter 7, the studies which concentrate on L1 NNSL – L2 NSL pairings have revealed that L2ers acquire null subjects early on (e.g., Al-Kasey & Pérez-Leroux, 1998; Rothman & Iverson, 2007a, 2007b), but tend to exhibit difficulties with respect to the discourse conditions which govern the distribution of overt pronominal subjects and the placement of lexical subjects, even at near-native levels (e.g., Belletti et

[151] Note that some authors, most notably Belletti (2004, 2005b, 2010), claim that referential *pro* is a necessary but not sufficient condition for "free" inversion to occur in narrow focus contexts. According to Belletti, activation of the clause internal VP periphery is also necessary.

al., 2007; Sorace & Filiaci, 2006). These findings are in line with the IH, according to which purely syntactic properties are fully acquirable in an L2, while properties at the interface between syntax and discourse are a locus of residual, but permanent, optionality. While acquiring the syntax of subjects is unproblematic in L1 NNSL-L2 NSL pairings, the same does not happen in L1 NSL- L2 NNSL combinations. The few studies carried out to date on this type of language combination have shown that L2ers accept null (expletive) subjects and "free" inversion at upper intermediate and advanced stages of acquisition (e.g., Judy, 2011; Judy & Rothman, 2010; Lozano & Mendikoetxea, 2010; Prentza, 2013; Prentza & Tsimpli, 2013).

Given that, to the best of my knowledge, no study has ever investigated whether null subjects and "free" inversion are allowed in L2 NNSLs at near-native levels, it remains unclear whether L1 NSL – L2 NNSL pairings give rise to permanent divergence in the domain of syntax. Research findings only allow us to conclude that NSP resetting is more problematic in the direction of [+NSP] to [-NSP] than in the direction of [-NSP] to [+NSP].[152] Crucially, if the syntax of pronominal subjects were a locus of permanent divergence in L1 NSL – L2 NNSL pairings, this would bring into question the prediction of the IH that narrow syntactic properties are completely acquirable in an L2. For this reason, it is important to investigate what goes on at a near-native level in these language pairings.

With a view to filling in this gap in GenSLA research, the present chapter investigates the acquisition of referential and expletive subjects and of subject placement in narrow and sentence focus contexts in advanced and near-native English. The chapter is organised as follows: section 9.2 presents the research questions and predictions of the study. In section 9.3, I describe its experimental design. Section 9.4 explains how the data were statistically analysed. In section 9.5, I report the results of the experiments on pronominal subjects and subject placement. Section 9.6 discusses the results. In section 9.7, I present a follow-up experiment which was designed to investigate whether input misanalysis is a possible cause of the difficulties found in L1 NSL-L2 English pairings. Finally, the main conclusions of the study are presented in section 9.8.

[152] Despite assuming that the NSP is a cluster of micro-parameters (cf. chapter 3), I use the terms "[+NSP]" and "[+NSP]" throughout this thesis for the sake of simplicity.

9.2. Research questions and predictions

The present study aims to investigate three questions which remain largely unanswered in the literature:

i. Does the acquisition of the syntax of subjects in English (i.e., the unavailability of null subjects and "free" inversion and the obligatory use of SV orders) generate problems to L1 speakers of a NSL, such as EP, but not to L1 speakers of a NNSL, such as French, at advanced developmental stages?

ii. Is the syntax of subjects fully acquirable in L2 English, even when the L2ers' L1 is a NSL?

iii. In advanced and near-native grammars of English, is there any correlation between ...

   a. the (un)availability of referential null subjects and the (un)availability of "free" inversion in narrow focus contexts?

   b. the (un)availability of null expletives/locatives and the (un)availability of "free" inversion in sentence focus contexts?

Regarding the first two questions, the IH predicts that the syntax of subjects will be completely unproblematic for near-native L2ers − but not necessarily for advanced L2ers −, regardless of whether their L1 is similar to or different from the L2. In what concerns question 3, there is no previous GenSLA research to guide the formulation of predictions, as all the studies that analysed the relation between null subjects and "free" inversion in L2 English yielded confusing results, and generally ignored a variable which may have confounded their results: discourse conditions (cf. chap. 7, section 7.3). Nonetheless, based on the findings of recent cross-linguistic research (e.g., Costa & Figueiredo Silva, 2006; Nicolis, 2008; among others), which are reviewed in chapter 3, and assuming with White (2003b) that interlanguage grammars are natural linguistic systems that fall within a limited range of pre-determined possibilities, it is possible to make the following predictions: (i) "free" inversion will only be possible in sentence focus contexts in the interlanguage grammars which license expletive null subjects; and (ii) "free" inversion will only be possible in narrow focus contexts in the interlanguage grammars which license referential null subjects.

9.3. Experimental design

A total of 26 monolingual speakers of English, 26 French L2ers of English (11 near-natives + 15 advanced) and 28 Portuguese L2ers of English (11 near-natives + 17 advanced) participated in this study (for a description of their profiles, cf. chapter 8, section 8.3). All participants were administered two experimental tasks on the placement of lexical subjects and two tasks on the (un)availability of null subjects in English. The tasks were of two types: (i) speeded acceptability judgment tasks, with the design presented in chapter 8, section 8.4.3, and (ii) untimed drag-and-drop tasks. The latter tasks followed the structure described in section 8.4.1, but had a slightly different design according to the property under test. On the one hand, in the task which focused on null subjects, there were two types of blocks of words: (i) a set of blocks which had to be obligatorily used (marked with red) and (ii) a set of optional blocks (marked with green), which included the words "he", "him", "himself" and "it". On the other hand, in the task which tested VS/SV orders, there were only obligatory blocks of words.

The drag-and-drop task and the speeded acceptability judgement task whose focus was on the placement of lexical subjects crossed two variables: (i) *type of discourse context* – sentence focus context *vs.* narrow subject focus context – and (ii) *type of word order* – SV *vs.* VS. Given that, in the drag-and-drop task, the (im)possibility of VS and SV structures could be tested within the same item,[153] this task only included two sets of experimental items: (i) a set of items which forced an all-focus interpretation of the sentence(s) that participants had to create, and (ii) a set of items which forced a narrow focus interpretation of the sentence(s). The speeded acceptability judgement task, in contrast, included four sets of items – one per condition. In both tasks, each set of experimental items was composed of 6 items. As shown in table 9.1, both tasks included as many fillers as experimental items.

Structure	***Task***	***Items***		
		Experimental items	**Fillers**	**Total**
SV-VS orders	**Drag and drop task**	12	12	24
	Speeded acceptability judgement task	24	24	48[154]

Table 9.1. *Number of items of the tasks on SV-VS orders*

[153] Recall that, in each item of the drag-and-drop task, participants could create more than one continuation to the linguistic context presented to them. As a result, they could produce SV, VS or both word orders in a single experimental item.

[154] This task included as many ungrammatical sentences as grammatical ones.

As illustrated in table 9.2, in the tasks on the placement of lexical subjects in English, all experimental items included a three-word indefinite subject and a verb in the simple past (for the complete tests, cf. Appendix C). The verb belonged to the class of unaccusative verbs which select LOC in EP (e.g., "arrive", "come", "enter", "appear", "die", "be born"). This is because this verb class is the one which occurs most readily in VS structures in EP, particularly when combined with indefinite subjects.[155] Thus, by using these verbs, it is possible to test, in a reliable way, whether or not EP-speaking L2ers of English transfer "free" inversion from their L1 to the L2.

Type of word order	***Type of discourse context***	
	Sentence focus	**Narrow focus**
SV	A: Why was the flag at half-mast yesterday? What happened? B: *A war hero died.*	A: Who died? B: *A famous actor died.*
VS	A: Why were flags at half-mast yesterday? What happened? B: *Died a famous writer*.	A: Who died? B: *Died a rock singer.*

Table 9.2. *Sample items from the experiments on the placement of lexical subjects*

Like the tasks on the placement of lexical subjects, the speeded acceptability judgement task and the drag-and-drop task which tested null subjects had a 2 x 2 design. The former task crossed the following variables: (i) *type of null subject* – null referential subject *vs.* null expletive subject – and (ii) *type of clause* – matrix clause *vs.* embedded clause.[156] To test whether or not L2ers produce null subjects, the latter task crossed similar variables, notably: (i) *type of pronominal subject* – referential subject *vs.* expletive subject – and (ii) *type of clause* – matrix clause *vs.* embedded clause. All tasks included 4 items[157] per condition and as many fillers as experimental items (for the

[155]As shown in (i), when the unaccusatives that select LOC are combined with indefinite subjects, VS is strongly preferred over SV orders in EP in sentence focus contexts (Costa, 2001, 2004; Costa & Figueiredo Silva, 2006).

(i) A: O que aconteceu?
what happened
B: a. Nasceram 20 bebés. / ?20 bebés nasceram.
were-born 20 babies 20 babies were-born
b. Nasceram os meus netos. / Os meus netos nasceram.
were-born the my grandchildren the my grandchildren were-born

[156] The variable "type of clause" was included here because previous studies by Judy and Rothman (2010) and Judy (2011) found that it influences L1-NSL L2-English speakers' results.

[157] I used 4 items per condition instead of 6 in order to reduce the time needed to run the experiments. Note that overall, in each task, participants were tested on each type of null subjects in 8 items (4 in embedded clauses and 4 in matrix clauses).

complete tests, cf. Appendix D). The precise number of items per task is presented in table 9.3.

Structure	***Task***	***Items***		
		Experimental items	**Fillers**	**Total**
Null subjects	**Drag and drop task**	16	16	32
	Speeded acceptability judgement task	16	16	32[158]

Table 9.3. *Number of items of the tasks on null subjects*

In the tasks which focused on null subjects, all experimental items included a context with 12 to 15 words, an XP (either an AdvP or a PP) in clause-initial position, as in Judy (2011) and Judy and Rothman (2010),[159] and a verb in the simple past. In the items which tested expletive subjects, the verb was a weather verb in one half of the items and "be" or "become" in the other half. In the items which tested referential subjects, on the other hand, the verb was always transitive. In these items, the sentence that had to be judged or produced by the participant was embedded in a [-topic shift] context, which is the context where null referential subjects are typically felicitous in NSLs like EP (cf. chapter 3, section 3.4). Since antecedent animacy influences the distribution of null and overt pronominal subjects in EP (cf. chapter 3, section 3.4), this semantic factor was carefully manipulated in the experiments. While, in one half of the items, referential subjects had a masculine [+animate] antecedent, in the other half, their antecedent was [-animate]. Sample test items are presented in table 9.4.

[158] This task included as many ungrammatical sentences as grammatical ones.

[159] Although Judy and Rothman (2010) and Judy (2011) do not explain why the null subject is preceded by an XP in their experimental items, it is not difficult to imagine why this is so. Possibly, they assumed that L2ers are likely to be sensitive to the fact that English does not admit verb-initial structures, which may lead them to reject structures with the order *null subject-V-O*, despite having an underlying null subject grammar. Crucially, this prediction does not seem to hold true. A recent study by Prentza and Tsimpli (2013) found that L1-Greek L2-English speakers do not accept more null subjects and VS orders in XP-preposed than in verb-initial structures. Contrary to these authors' expectations, there were no statistically significant differences between the two contexts. L2ers accepted null subjects and ungrammatical VS in both. In spite of this evidence, I decided to include a PP in clause-initial position in order to ensure comparability between this study and Judy and Rothman's.

Type of null subject		*Type of clause*	
		Matrix	**Embedded**
Referential	[-animate]	The Midsteeple is an historic building which dates back to the 18th century. *In the past contained 100 prison cells.*	The 2004 Indian Ocean tsunami is considered the deadliest natural disaster in history, *because in total killed 230 000 people.*
	[+animate]	Mike Dumba was born in Austria and moved to the USA in the 1970s. *In 1982 purchased his first farm.*	Unfortunately our friend Nathan could not come to this year's MacMillan Ball, *because on Monday broke his left leg.*
Expletive		At first, the scientific community did not understand the pattern of transmission of AIDS. *In the 1990s became clear that this disease is transmitted through body fluids.*	Steve Clinton graduated in 1979 and immediately decided to start his own business, *because at that time was difficult to find a job in computer engineering.*

Table 9.4. *Sample items from the experiments on pronominal subjects*

In the present study, the unavailability of "free" inversion and null subjects in English is tested by means of drag-and-drop tasks and speeded acceptability judgement tasks, because these tasks impose different demands on the L2er. As explained in detail in chapter 8, while drag-and-drop tasks give participants time to access their explicit knowledge of the properties under test[160] and use it to monitor their answers, speeded acceptability judgement tasks do not. In these tasks, the speeded presentation of the stimuli and the rapidly enforced judgement force participants to rely essentially on their implicit, automatized knowledge of the syntax of subjects. By combining drag-and-drop tasks with speeded acceptability judgement tasks, we can thus obtain a fairly complete picture of what happens at the final stages of the acquisition of the syntax of subjects in L2 English.

9.4. Data analysis

The data collected by means of the four experimental tasks described in the previous section were statistically analysed using mixed-effects models. The analyses were conducted in slightly different ways according to the specificities of the tasks.

The results of the drag-and-drop tasks were subject to within- and between-group analyses. In each analysis, four independent datasets were used: (i) a dataset

[160] Note that, as the L2ers who participated in this study received English language instruction for many years (cf. chapter 8), they are likely to have some level of explicit knowledge of the unavailability of null subjects and "free" inversion in English. Even though these phenomena are not usually covered in coursebooks, these L2ers are likely to have received explicit corrective feedback from their teachers in response to their errors regarding the syntax of subjects in English.

where the dependent variable was the presence/absence of VS (codified as VS=1 and no VS=0), (ii) a dataset where the dependent variable was the presence/absence of SV (codified as SV=1 and no SV=0), (iii) a dataset where the dependent variable was the presence/absence of null subjects(codified as null subject=1 and no null subject=0), and (iv) a dataset where the dependent variable was the presence/absence of overt subjects (codified as overt subject=1 and no overt subject=0). As drag-and-drop tasks had a binary outcome, statistical analyses were conducted using mixed logit models. These included crossed random effects for subjects and items. In the analyses of the data on SV/VS orders, the variables which were modelled as fixed effects were the following: "discourse context" and (where appropriate) "group". In the analyses of the data on pronominal subjects, on the other hand, the fixed effects were the variables "type of subject", "type of clause" and (where appropriate) "group". Following Linck and Cunnings (2015), all analyses included random intercepts for subjects and items, by-subject random slopes for within-subjects variables (i.e., the variable "discourse context" in the case of the task on SV/VS orders, and the variables "type of subject" and "type of clause" in the case of the task on pronominal subjects) and their interaction, and by-item random slopes for group (in between-group analyses only).

The data collected by means of speeded acceptability judgement tasks were subject to within-group and between-group analyses using linear mixed effects models with crossed random effects for subjects and items. In the analyses of the data on SV/VS orders, the variables which were modelled as fixed effects were the following: "discourse context", "word order" and (where appropriate) "group". In the analyses of the data on null subjects, the fixed effects were the variables "type of subject", "type of clause" and (where appropriate) "group". Following Linck and Cunnings (2015), analyses included random intercepts for subjects and items, by-subject random slopes for all within-subjects variables and their interaction (i.e., "word order" and "discourse context" in the case of the task on SV/VS orders, and the variables "type of subject" and "type of clause" in the case of the task on null subjects), and by-item random slopes for group (in between-group analyses only). In the cases where a main interaction between word order and group was found, we divided the original dataset into two: (i) a dataset which only included data from the items that tested VS orders, and (ii) a dataset which only included data from the items that tested SV orders. We then ran statistical analyses

on each of these datasets to determine whether the control group and the L2 group differed with respect to SV or VS orders.

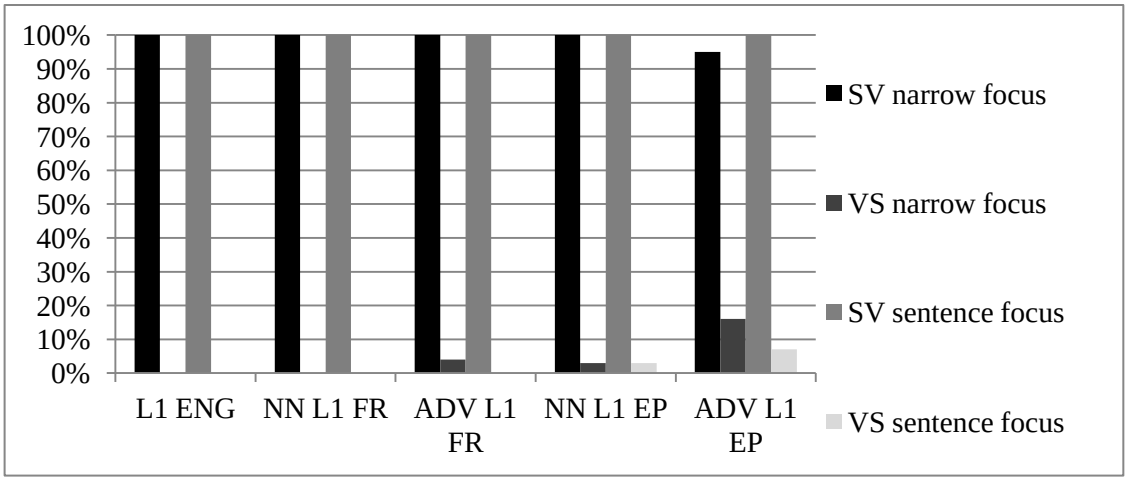
9.5. Results

Drag-and-drop tasks and speeded acceptability judgement tasks yielded slightly different results both in the study on the placement of lexical subjects and in the study on the (un)availability of null subjects in English. These results are described in the present section, which is divided into two parts: the first (sub-section 9.5.1) focuses on the experiments on the placement of lexical subjects in English, while the second (sub-section 9.5.2) concentrates on the experiments on null subjects and compares L2ers' results in these experiments with their results with respect to VS orders, with a view to establishing whether there is any correlation between the (un)availability of null subjects and the (un)availability of "free" inversion in interlanguage grammars.

9.5.1. *Experiments on SV and VS orders*

In the drag-and-drop task on the placement of lexical subjects in English, almost all groups performed at ceiling in accepting SV orders and in rejecting VS orders. As shown in fig 9.1, the only group that did not completely reach ceiling results was the group of advanced Portuguese L2ers of English. Despite exhibiting a strong preference for SV orders over VS orders in narrow and sentence focus contexts, these L2ers produced a slightly higher percentage of VS orders and a lower percentage of SV orders than the other groups. Crucially, the differences between the group of advanced Portuguese L2ers of English and the group of English monolinguals were not statistically significant (difference between the two groups regarding VS orders: estimate=77.30, SE[161]=252.06, p=0.759; difference regarding SV orders: estimate=123.75, SE=153.20; p=0.419). It can, therefore, be concluded that all groups of Portuguese and French speakers of English performed native-like in the drag-and-drop task.

[161] SE stands for "standard error".



Legend: L1 ENG=L1 speakers of English; NN L1 FR=near-native French speakers of English; ADV L1 FR=advanced French speakers of English; NN L1 EP=near-native EP speakers of English; ADV L1 EP=advanced EP speakers of English.

Fig 9.1. *Percentage of production of SV and VS orders in the drag-and-drop task per group*

In the speeded acceptability judgement task, all groups of L2ers performed target-like, except for the group of advanced EP speakers of English (see fig 9.2 and table 9.5). Although they performed native-like with respect to SV orders (ADV L1 EP *vs.* L1 ENG: estimate=-0.13348, SE=0.17061, *t*=-0.78), these EP speakers accepted VS orders significantly more than the English monolinguals both in sentence and narrow focus contexts (ADV L1 EP *vs.* L1 ENG regarding all VS orders: estimate=0.86670, SE=0.26812, *t*=3.232; VS orders in narrow focus contexts: estimate=1.1090, SE=0.3227, *t*=3.437; VS orders in sentence focus contexts: estimate=0.6244, SE=0.3262, *t*=2.644).

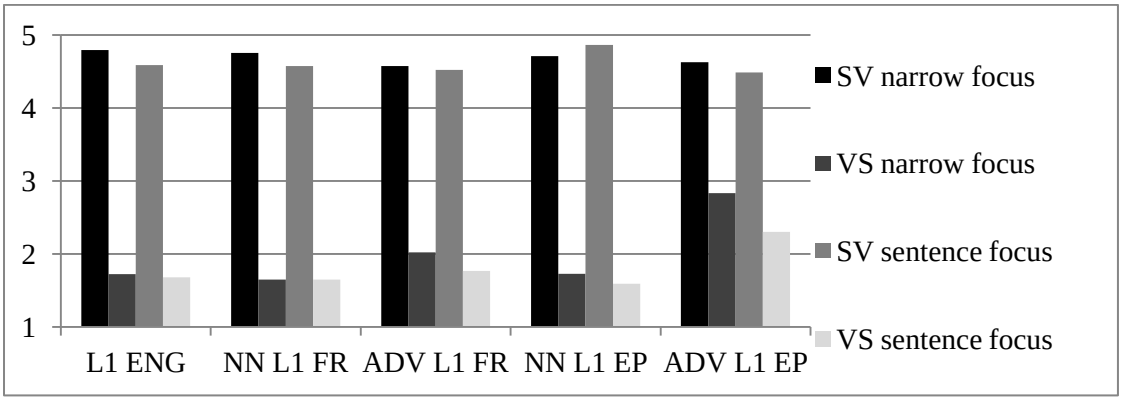


Fig 9.2. *Mean acceptance rates of SV and VS orders in the speeded acceptability judgement task per group (scale 1-5)*

Group pairs	*Fixed effect of group*		
	Estimate	**SE**	***t***
English controls *vs.* Advanced EP speakers of English	0.36661	0.15080	2.43[a]
English controls *vs.* Near-native EP speakers of English	-0.02637	0.15641	-0.17
English controls *vs.* Advanced French speakers of English	0.013273	0.154452	0.09
English controls *vs.* Near-native French speakers of English	-0.03802	0.17237	-0.22

[a] Statistically significant

Table 9.5. *Fixed effect of group in the speeded acceptability judgements on SV/VS orders*
(statistical model: linear-mixed effects model)

A within-group analysis reveals that advanced Portuguese speakers of English accepted inversion more in narrow focus contexts than in sentence focus contexts (estimate=-0.5294, SE=0.1929, *t*=-2.744). This difference is particularly evident when we consider these speakers' individual results. As fig 9.3 shows, while only 24% of the advanced Portuguese speakers of English who participated in this study had a median[162] acceptance rate above 3 in the condition "VS in sentence focus contexts", 53% of them had a median acceptance rate of VS with a narrowly focused subject above 3. In other words, half of them accepted (albeit to varying degrees) SVI in this discourse context.

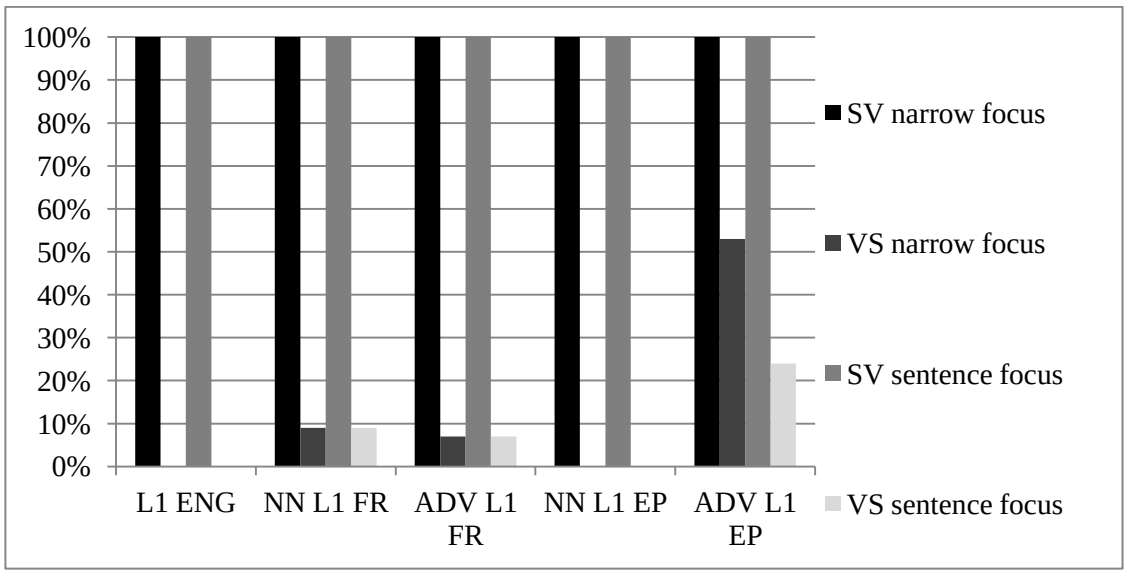


Fig 9.3. *Percentage of participants with a median above 3 in the speeded acceptability judgement task per condition and group*

[162] The median is the number found exactly in the middle of the distribution. Roughly speaking, this measure of central tendency shows what the 'likeliest' response of a participant is.

In sum, in the study on SV and VS orders in English, the only group of L2ers who did not behave native-like across all tasks and conditions was the group of advanced Portuguese speakers of English. Unlike all other experimental groups, this group failed to consistently reject VS orders, particularly in narrow focus contexts, in the task that involved time pressure. Given that the French speakers who had an equivalent level of proficiency in English behaved target-like in this task, we can safely conclude that EP speakers' problems did not stem from extra-grammatical factors, such as a mismatch between the pace of the task and advanced L2ers' reading speed.

9.5.2. *Experiments on referential and expletive subjects*

In the drag-and-drop task on English referential and expletive subjects, the control group, the groups of French speakers of English and the near-native group of EP speakers of English either produced null subjects in no more than 2% of the items or did not produce them at all. These groups opted to use overt subjects (instead of or in addition to null subjects) in all experimental items. As shown in figures 9.4 and 9.5, the advanced group of EP speakers of English produced slightly more null subjects and less overt subjects than the other groups. However, the differences between this group of EP speakers and the English controls were not statistically significant (difference regarding null subjects: estimate=-20.30511, SE=256.87651, p=0.937; difference regarding overt subjects: estimate=-17.8954, SE=139.5606, p=0.898). Hence, it can be concluded that all groups of L2ers, including the group of advanced EP speakers of English, performed target-like in this drag-and-drop task.

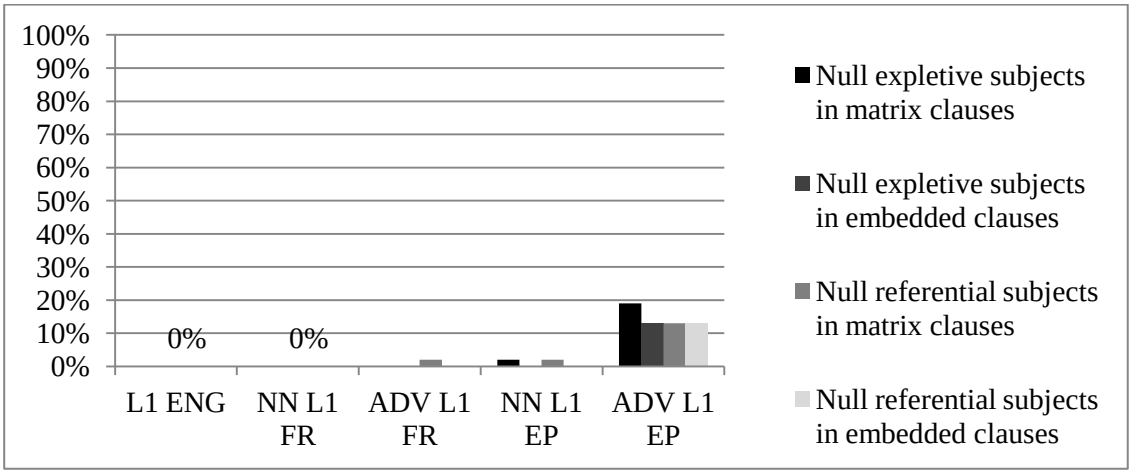


Fig 9.4. *Percentage of production of null subjects in the drag-and-drop task per type of clause and type of subject*

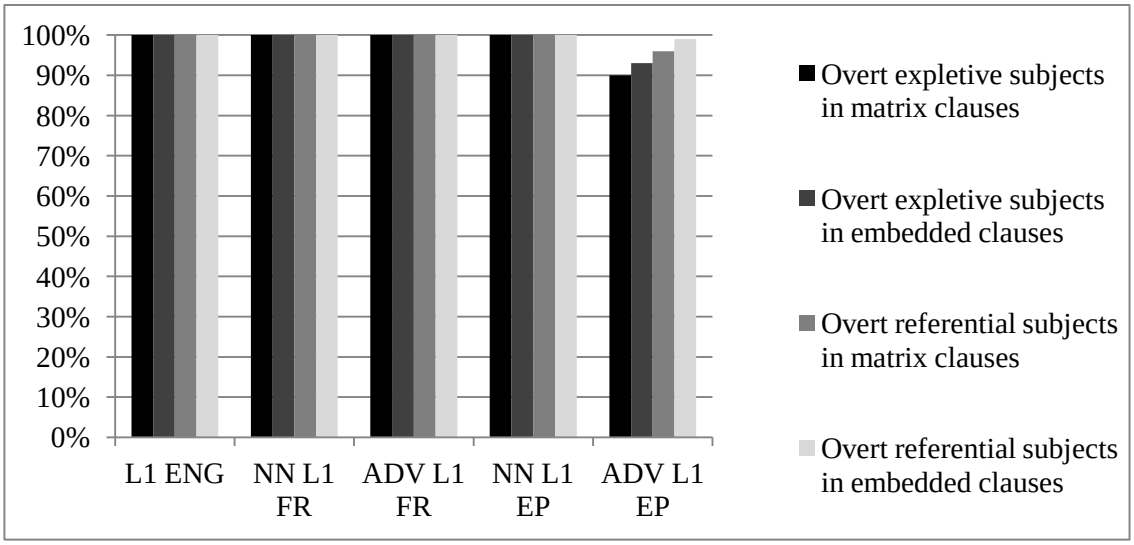


Fig 9.5. *Percentage of production of overt subjects in the drag-and-drop task per type of clause and type of subject*

In the speeded acceptability judgement task, not all groups performed target-like. As fig 9.6 and table 9.6 show, there was a group of L2ers that behaved in a deviant way: the group of advanced EP speakers of English. This group accepted null subjects significantly more than the group of native speakers of English[163] (estimate=1.47653, SE=0.24935, *t*=5.922), regardless of such factors as the type of null subject and the type of clause (no significant interactions between the variable "group" and the variables "type of subject" and/or "type of clause" were found: *t*s < - 1.772).

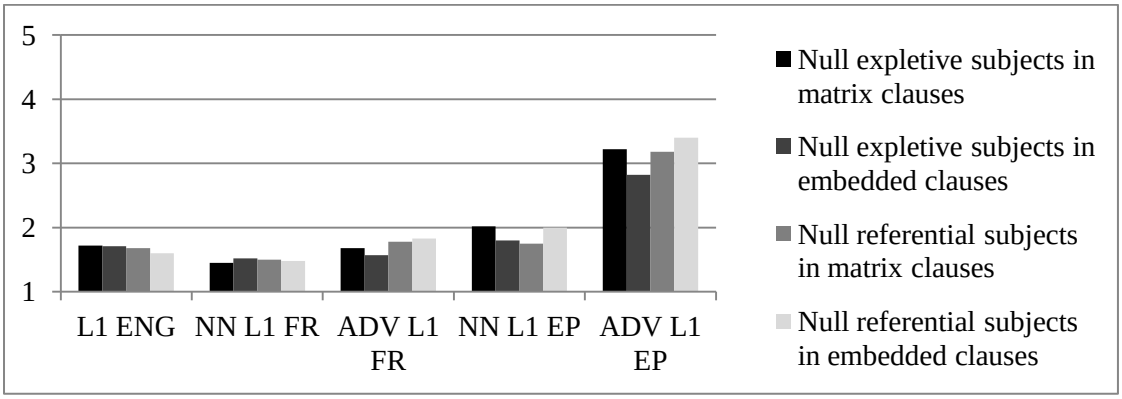


Fig 9.6. *Mean acceptance rates of null subjects in the speeded acceptability judgement task per type of clause and type of subject (scale 1-5)*

[163] Given that the French speakers who had an advanced level of proficiency in English behaved target-like in the speeded acceptability judgement task, we can safely conclude that the problems of the advanced group of EP speakers in this task did not stem from extra-grammatical factors (e.g., a mismatch between the pace of the task and advanced L2ers' reading speed).

Group pairs	*Fixed effect of group*		
	Estimate	**SE**	***t***
English controls *vs.* Advanced EP speakers of English	1.47653	0.24935	5.922[a]
English controls *vs.* Near-native EP speakers of English	0.21045	0.24038	0.876
English controls *vs.* Advanced French speakers of English	0.03878	0.21332	0.182
English controls *vs.* Near-native French speakers of English	-0.194363	0.218578	-0.889

[a] Statistically significant

Table 9.6. *Fixed effect of group in the speeded acceptability judgements on null subjects (statistical model: linear-mixed effects model)*

As the within-group analysis presented in table 9.7 demonstrates, in the speeded acceptability judgement task, advanced Portuguese speakers of English made no distinction between embedded and matrix clauses (*t*=-1.502), on the one hand, and between referential and expletive null subjects (*t*=-1.224), on the other.

	Fixed effects			*Random effects*	
				By subject	***By item***
Parameters	**Estimate**	**SE**	***t***	**SD**	**SD**
Intercept	3.1544	0.2656	11.876	1.0319	0.2829
Type of subject	-0.2647	0.2162	-1.224	0.5060	-
Type of clause	-0.3088	0.2056	-1.502	0.4246	-
Type of subject x Type of clause	-0.1765	0.3675	-0.480	0.3765	-

Table 9.7. *Within-group analysis of the results of the advanced L1-EP L2-English speakers in the speeded acceptability judgement task (statistical model: linear-mixed effects model)*

These results are not in line with what has been reported in previous studies on L1 NSL - L2 English pairings. Recall that Judy (2011), Judy and Rothman (2010) and Prentza and Tsimpli (2013) found an asymmetry between referential and expletive subjects in advanced L1-NSL L2-English grammars (cf. chapter 7, section 7.3.2): the advanced L2ers they tested accepted null expletive subjects, particularly in matrix clauses, but tended to either reject (in Judy, 2011; Judy & Rothman, 2010) or accept only marginally (in Prentza & Tsimpli, 2013) null referential subjects. EP speakers' results, therefore, raise an intriguing question: why do these speakers accept more null referential subjects in English than, for example, the advanced Spanish speakers of English who participated in Judy and Rothman's (2010, Judy 2011) experiments? I argue that this difference results from a methodological factor: the fact that our

experimental items included referential subjects with [+animate] and [-animate] antecedents, whereas Judy and Rothman's items only included [+animate] null subjects.

As noted in chapter 3 (section 3.4), antecedent animacy influences the distribution of overt and null subjects in EP and possibly in other NSLs. In a corpus-based study, Barbosa et al. (2005), for example, found that 97% of the null subjects in their corpus referred to an [-animate] antecedent, and that overt subject pronouns were almost always [+animate]. Significantly, these trends have been experimentally confirmed in recent work by Morgado and colleagues (Morgado et al., 2014; Morgado et al., 2017). So, there is now sufficient evidence to conclude that, at least in EP, overt subject pronouns are compatible with [+animate] referents, but generally not with [-animate] referents.

Statistical analyses of the results of the group of advanced Portuguese speakers of English in the speeded acceptability judgement task reveal that animacy factors also influence the distribution of null referential subjects in the L2 English of EP speakers. As fig 9.7 illustrates, the group of advanced Portuguese speakers of English accepted null referential subjects significantly more when they referred to a [-animate] antecedent than when they referred to an [+animate] one (estimate=0.5147, SE=0.2047, t=2.515).[164] In the cases where the antecedent was [-animate], null referential subjects were accepted as much as null expletive subjects were (estimate=-0.007353, SE=0.225849, t=-0.033). Conversely, when the antecedent was [+animate], null referential subjects were significantly less accepted than null expletives (estimate=-0.5221, SE=0.2475, t=-2.109), which is in line with Judy and Rothman's findings. Importantly, EP speakers' behaviour with respect to null subjects changed considerably at a near-native level. As shown in fig 9.7, unlike the EP speakers who had an advanced level of proficiency in English, those who were at a near-native level did not make any distinction between [-animate] and [+animate] null subjects (estimate=0.04545, SE=0.20362, t=0.223). They rejected both, just as the native speakers of English did.

[164] In the drag-and-drop task, this group did not make any significant distinction between [-animate] and [+animate] null subjects (estimate=-119.39, SE=93.49, p=0.202).

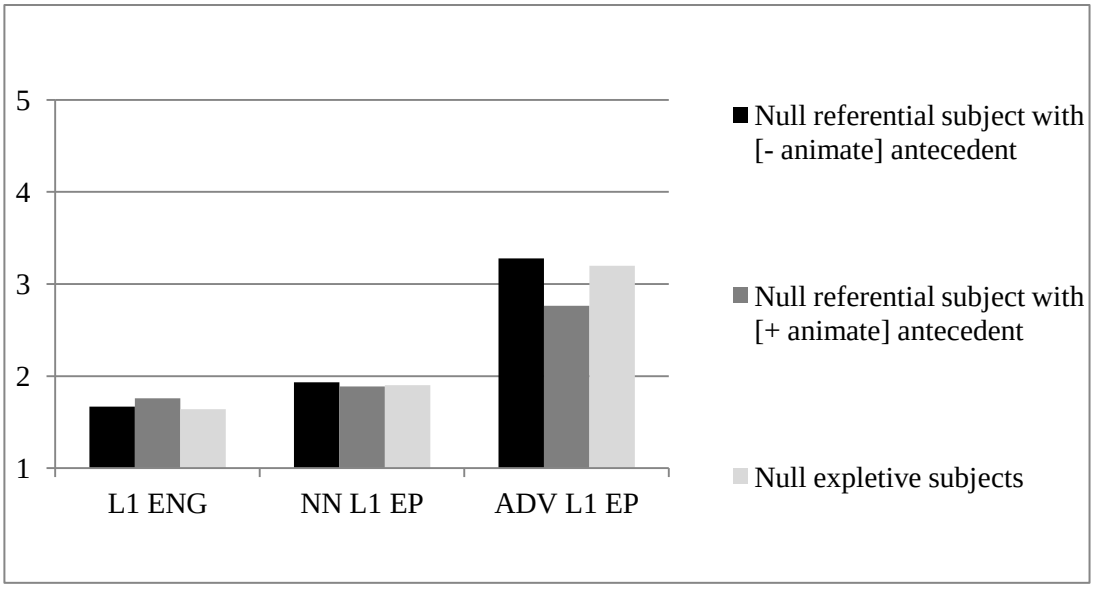


Fig 9.7. *Mean acceptance rates of null [± animate] subjects and null expletives in the speeded acceptability judgement task (scale 1-5)*

When we compare EP speakers' individual results in the tasks which focused on null subjects with their results in the tasks which tested inversion, it becomes clear that there is a unidirectional correlation between these properties. As illustrated in tables 9.8 and 9.9., all the advanced and near-native Portuguese speakers of English who allowed inversion in sentence focus contexts also admitted (or, at least, did not reject) null expletive subjects.[165] However, not all of the speakers who admitted null expletives accepted inversion in all-focus contexts (see the cases of participants 201, 202, 206, 207, 216, 220 and 228 in the speeded acceptability judgement task, and the cases of participants 207, 219, 221, 227 and 229 in the drag-and-drop task). Similarly, all EP speakers who admitted inversion in narrow focus contexts also allowed or, at the very least, did not reject null referential subjects. The reverse, nevertheless, is not true (see the cases of participants 201, 206, 212, 220 and 228 in the speeded acceptability judgement task, and the case of participant 225, 207, 219 and 227 in the drag-and-drop task).

[165] I assume that a participant who has a median acceptance rate above 3 of a given property allows it in his/her interlanguage grammar. I further assume that a participant who has a median acceptance rate of 3 does not reject the property under test. Only a median of less than 3 is here interpreted as a clear rejection of the property/structure under test.

Level of proficiency in English	*Participant*	*VS in narrow focus context*	*Null referential subjects*	*VS in sentence focus context*	*Null expletive subjects*
Advanced	201		*		*
	202	X	*		X
	203	X	X	*	X
	204				
	205	X	X	X	X
	206		*		*
	207	X	X		X
	209	X	*		
	210				
	211				
	212		X		
	216				X
	217				
	219	X	*		
	222	X	X	X	X
	227	X	X	X	X
	229	X	X	X	X
Near-native	208				
	213				
	214	*	*		
	215				
	220		*[a]		*[a]
	221				
	223				
	224				
	225				
	226				
	228		X		X

Legend: X=has a median > 3; *=has a median of 3; ■=has a median < 3

Notes:

[a] This participant produced 2 VS structures in the drag-and-drop task: one in an all-focus context and another in a narrow focus context.

Table 9.8. *EP speakers' individual results in the speeded acceptability judgement tasks on VS orders and null subjects*

Level of proficiency in English	*Participant*	*VS in narrow focus context*	*Null referential subjects*	*VS in sentence focus context*	*Null expletive subjects*
Advanced	201				
	202	X	*	*[a]	
	203				
	204				
	205				
	206				
	207		X[b]		*
	209				
	210				
	211				
	212				
	216	X	*	*	X
	217				
	219		X[b]		X
	222	X	X	X	X
	227		*[b]		X[c]
	229	X	X		X[c]
Near-native	208				
	213				
	214	*[d]			
	215				
	220	*[e]		*[e]	
	221				*
	223				
	224				
	225		*		
	226				
	228				

Legend: X=produced more than 1 sentence with the property/structure under consideration; *=produced 1 sentence with the property/structure under consideration; ■ =did not produce any sentence with the property/structure under consideration

Notes:

[a] This participant accepted null expletives in the speeded acceptability judgement task.

[b] This participant accepted SVI in narrow focus contexts in the speeded acceptability judgement task.

[c] This participant accepted SVI in all-focus contexts in the speeded acceptability judgement task.

[d] This participant did not reject null referential subjects in the speeded acceptability judgement task.

[e] This participant did not reject null referential and expletive subjects in the speeded acceptability judgement task.

Table 9.9. *EP speakers' individual results in the drag-and-drop tasks on VS orders and null subjects*

In summary, in the present study, French speakers behaved native-like across all tasks, while EP speakers did not. Those who had an advanced level of English failed to reject VS orders and null subjects, particularly expletive and [-animate] null subjects, in the tasks that involved time pressure. In contrast, the EP speakers who were at a near-

native level behaved target-like across all tasks and conditions. A careful analysis of EP speakers' results indicates that the following properties are unidirectionally correlated in their interlanguage grammars: (i) "free" inversion in narrow focus context and null referential subjects, and (ii) "free" inversion in sentence focus context and null expletive subjects.

9.6. Discussion

Taken together, the results obtained in the present study suggest that the syntax of subjects may give rise to significant developmental delays depending on L1-L2 combinations, but is completely acquirable in an L2.

On the one hand, the fact that the group of advanced EP speakers of English behaved native-like in untimed drag-and-drop tasks, but non-target-like in speeded acceptability judgement tasks indicates that the L1 setting for the NSP still competes with the L2 setting in these speakers' interlanguages, and that the properties associated with the latter setting are not fully mastered and automatized at an advanced stage of acquisition. This finding thus confirms that, as Judy and Rothman (2010), Judy (2011) and Prentza and Tsimpli (2013) observed, the syntax of subjects is difficult to acquire in L1 NSL - L2 NNSL pairings, such as L1 EP - L2 English.

On the other hand, the finding that, at a near-native level, EP speakers perform native-like across all tasks, just as the groups of French speakers do, suggests that the syntax of subjects is completely acquirable in L2 English, regardless of L1-L2 pairings. Crucially, this fact lends support to the prediction of the IH that "narrow" syntactic properties are unproblematic at the end state of (adult) L2 acquisition.

In addition to showing that the syntax of subjects is mastered very late in L1 NSL - L2 English pairings, the results obtained in the present study indicate that there is a unidirectional correlation between the availability of "free" inversion and the licensing of null subjects in L2 English. More specifically, our findings suggest (i) that the L2 English grammars that allow "free" inversion in narrow focus contexts necessarily license null referential subjects, but not vice-versa, and (ii) that the grammars which admit "free" inversion in sentence focus contexts necessarily license null expletive subjects, but not vice-versa. These correlations can be schematically expressed in the following way:

(1) *Correlation between null subjects and "free" inversion in L2 English*

a. "Free" inversion in narrow focus contexts → Licensing of null referential subjects

b. "Free" inversion in sentence focus contexts → Licensing of null expletive subjects

Possibly, in the interlanguage grammars of L1 EP-L2 English speakers, there is not a two-way correlation between the possibility of "free" inversion and the availability of null subjects, because L2ers may learn how English marks narrow focus on the subject and expresses theticity before eliminating null referential and/or expletive subjects from their grammars.[166] Two facts suggest that this hypothesis may be on the right track: (i) the fact that Zubizarreta and Nava (2011) show that the English use of prosody to align nuclear stress with narrow focus is generally unproblematic for intermediate and advanced L2ers who have a Romance NSL as their L1; and (ii) the fact that 83.3% of the Portuguese speakers of English who accepted null expletives and rejected "free" inversion in sentence focus contexts overproduced and/or overaccepted expletive-associate inversion − which is a syntactic structure that marks theticity in English − in the experiments that will be reported in chapter 11.[167] The latter fact suggests that these L2ers may resort to expletive-associate inversion rather than to VS to mark theticity syntactically.[168]

Crucially, the unidirectional correlations summarised in (2) are consistent with the results of various cross-linguistic studies (e.g., Costa & Figueiredo Silva, 2006; Nicolis, 2008; among others) which show, on the one hand, that the licensing of null referential subjects is a pre-requisite for "free" inversion to be possible in narrow focus contexts and, on the other, that the availability of null expletives is a necessary condition for "free" inversion to be possible in sentence focus contexts (cf. chapter 3).

[166] Recall that, while Romance NSLs like EP use VS orders to mark narrow focus on the subject and convey theticity in sentence focus contexts, English exploits its prosodic flexibility for both purposes. As noted in chapter 2, English places nuclear stress on the subject to mark focus on the subject in narrow focus and to mark theticity in sentence focus. In English, theticity can also be marked syntactically via impersonal constructions and *there*-sentences.

[167] More specifically, they accepted and/or produced *there*-inversion with the verbs that can undergo this type of SVI and with those which cannot. In addition, they accepted and/or produced SVI with the expletive *it* in the canonical subject position.

[168] Note that, as pointed out in chapter 2, English also encodes theticity prosodically by placing the nuclear stress on the subject in SV structures. However, as research by Zubizarreta and Nava (2011) has shown that the English use of prosody to mark the thetic/categorical distinction is hard to acquire by Spanish L2 speakers, the acquisition of this prosodic strategy is unlikely to be much less problematic than the unlearning of null expletives.

The results in (1), thus, confirm our predictions and, by extension, lend support to one of the fundamental assumptions underpinning most GenSLA research: that interlanguage grammars are natural linguistic systems which fall within a limited range of pre-determined possibilities.

The results of the present study not only provide answers to our research questions, but also raise three relevant questions: (i) Why do advanced EP speakers of English display higher acceptance rates of VS in narrow focus contexts than in sentence focus contexts? (ii) Why do they display higher acceptance rates of expletive and [-animate] null subjects than of [+animate] null subjects? (iii) Why is the syntax of subjects problematic and yet acquirable in L1 EP - L2 English, in particular, and L1 NSLs - L2 NNSLs, in general? These questions will be addressed in the remainder of the present section.

The key to answer question (i) lies in the distribution of VS in the L2ers' L1. As described in detail in chapter 6, in EP, SV and VS orders are grammatical and equally felicitous in sentence focus contexts when the verb belongs to the class of "inversion verbs", but, when it does not, only SV orders are allowed in this discourse context. In narrow subject focus contexts, in contrast, VS is always the preferred word order, regardless of the type of verb. This means that, in EP, VS is a more common and, hence, less marked option in narrow focus contexts than in sentence focus contexts. In the light of this fact, and considering that a large body of SLA research has shown that what is unmarked is more readily transferable and more likely to be resistant to restructuring than what is marked (for an overview, cf. Callies, 2012; Ellis, 2008), it can be hypothesised that L2ers admit more VS orders in a narrow focus context than in a sentence focus context because, in EP, this word order is a default, unmarked option in the former context but crucially not in the latter.

As is the case with question (i), the answer to question (ii) lies in the L1. As noted in chapter 3, EP admits both overt and null [+animate] subjects, but has a preference for overt subjects whenever their null counterparts are not unambiguously interpretable. Due to this fact, and given that the poor verbal agreement morphology of English is unable to unambiguously identify the referent of a null subject, EP speakers are unlikely to accept [+animate] null subjects, even if the L1 setting for the NSP is still operating in interlanguage grammars. [-Animate] and expletive null subjects, on the other hand, may be considerably more accepted in the interlanguages which are (at

least, partially) under the influence of the L1, because these types of subjects are (almost) always null in EP.[169]

Significantly, EP speakers' behaviour with respect to [-animate] and [+animate] referential subjects in English is similar to the pattern of language change in the diachrony of BP. Various studies (cf. Cyrino, Duarte, & Kato, 2000; M. E. Duarte, Mourão, & Mendonça, 2012) have shown that [+animate] null subjects have been lost faster and to a larger extent in this language variety than [-animate] null subjects. Together, these diachronic data and the L2 data presented in this chapter suggest that the stronger the preference for a given type of null subject is, the less permeable that null subject is to change in natural language systems.

Let us now turn to the final question raised by the present study: why is the syntax of subjects problematic and yet acquirable in L1 EP - L2 English, in particular, and in L1 NSLs - L2 NNSLs, in general? As noted in chapter 7, section 7.3.2, Judy and Rothman's (2010; Judy, 2011) Superset-Subset Hypothesis is practically the only account that has been put forth in the literature to explain L2ers' syntactic difficulties in L1 NSLs-L2 NNSLs. According to this hypothesis, the syntax of subjects is particularly difficult to acquire in L1 NSLs-L2 NNSLs, because a NSL like EP is the superset of a NNSL like English and, consequently, it is possible for an interlanguage grammar with a positive setting for the NSP to accommodate the null subjects (and VS orders) in the L2 input. As discussed in chapter 7, this hypothesis does not offer a satisfactory explanation for the problems in L1 NSLs-L2 NNSLs, since it overlooks an important syntactic fact: NSLs and English do not really fall into a superset-subset relation regarding expletive subjects. A NSL like EP only allows null expletives and English just admits overt expletives (cf. chapter 3). Consequently, even if, as the Superset-Subset Hypothesis claims, NSLs and English are in a superset→subset relation regarding referential subjects and SV-VS orders (cf. the discussion in chapter 7, section 7.3.2), the presence of overt expletive subjects in the input constitutes an unambiguous

[169] As noted in chapter 7, Judy and Rothman (2010) and Judy (2011) propose a different explanation for the asymmetries between null subjects found in L1 Spanish - L2 English with respect to the acceptance of null subjects. They argue that Spanish L2ers of English accept null expletive subjects significantly more than null referential subjects, because the latter, but not the former, have to be syntactically licensed and identified by rich verbal inflection. For this reason, null expletive subjects are more readily acceptable in a language with poor inflection like English than null referential subjects. This explanation, however, does not fit our data, as it fails to explain why [-animate] null referential subjects are significantly more accepted than [+animate] null referential subjects and why [-animate] null referential subjects are as accepted as null expletive subjects, despite being a type of referential subject which is licensed by rich verbal inflection, like all referential subjects.

piece of positive evidence that English has a positive setting for the PF-interpretability micro-parameter described in chapter 3 (i.e., it requires Spec, IP to be spelled out at PF),[170] and that, as a consequence, all types of null subjects are ungrammatical in this language. Considering that null subjects were found to be a pre-requisite for "free" inversion to be licensed in L2 English, there is good reason to assume that the presence of overt expletive subjects in the input can serve not only as direct positive evidence that English does not allow subjects to remain unexpressed, but also as indirect positive evidence that "free" inversion is ungrammatical in this language.[171] The occurrence of overt expletive subjects in the input should, therefore, be able to trigger NSP-resetting.

Given that this type of subjects is frequent in English and tends to be present in L2 classrooms from beginner levels (e.g., in sentences like "it's cold" or "there's a book on the table"), the following question arises: why is it that EP speakers display problems with respect to English pronominal subjects until an advanced level of proficiency, despite being exposed to overt expletive subjects from the early stages of acquisition? In the present thesis, I propose that this probably happens due to the misanalysis of (some of) the overt expletive subjects which occur in the L2 input. More specifically, I argue that, as L2ers initially tend to "see" the L2 input through the glasses provided by their L1, they may misanalyse the sequence "overt expletive subject + verb", particularly in its contracted form, as a verbal form without an overt subject (cf. 2) at beginner and even intermediate stages of acquisition. As a result of misanalysis, L2ers may then assume that English actually licenses null expletive subjects.[172] In such a scenario, the L1-transferred setting for the NSP would, therefore, remain unchallenged for a period of time, which would significantly delay the process of parameter resetting.

[170] The existence of overt [-animate] subjects in the input is a more ambiguous piece of evidence than the presence of overt expletives, because, contrary to expletive subjects, [-animate] subjects can be overt in standard EP under certain circumstances (cf. chapter 3).

[171] Grammar is an implicational network of interrelated properties. For this reason, as Yip (1995: 40) points out, "positive evidence of a structure can serve as indirect evidence for the occurrence or non-occurrence of another related structure, thus causing change in the grammar".

[172] It could be argued that the fact that the expletives "it" and "there" undergo subject-auxiliary inversion in interrogatives, just as referential subjects do, should provide clear evidence to L2ers that these elements are subjects and independent from the verb. However, at least at beginner levels, sequences like "is it" and "is there/are there" may be internalized as a whole, without analysis of their individual parts. Even if L2ers analysed them correctly as "verb+subject", they could simultaneously misanalyse "it's" and/or "there's" in declaratives. Critically, in such a scenario, L2ers would still be led to entertain the hypothesis that null expletive subjects are allowed in English (at least sometimes) and that, by extension, this language does not require Spec, IP to be spelled out at PF.

(2) a. [It's] [cold].

↓ ↓

Está frio.

is cold

b. [There's] [a book on the table].

↓ ↓

Está um livro em cima da mesa.

is a book on the table

There are several factors which conspire to make this kind of input misanalysis likely in L1 EP - L2 English: (i) the fact that only referential subjects can be overt in EP; (ii) the fact that the presence of overt referential subjects in the input is compatible with the positive setting of the NSP; (iii) the fact that "it's" and "is" are phonologically similar; and (iv) the fact that "it is", "there is", "there are" tend to be first taught/learnt as formulas, i.e. as indivisible ready-made chunks of words.

The Expletive Misanalysis Hypothesis can account not only for L2ers' difficulties in going from an L1 NSL to English, but also for the ultimate acquirability of the syntax of subjects in English, because it takes input misanalysis to be a temporary rather than a permanent phenomenon. This means that, at a given point in the course of L2 acquisition, after having sufficiently developed their rule-based knowledge, L1 NSL - L2 English speakers will cease to misanalyse the expletive subjects which occur in the input and will note that English requires them to be overt. This piece of evidence will then set the process of NSP-resetting in motion. As the results reported in the present chapter clearly illustrate, the L1 setting will not be automatically replaced by the L2 setting. The two settings will compete for a certain period of time, but, crucially, only one will be permitted to survive.

The hypothesis proposed in this section makes two testable predictions: (i) if L2ers misanalyse "it's" as equivalent to "is" in a sentence like "it's raining", then they should use "it's" as a verbal form in contexts where "is" is required (e.g., "the house it's beautiful"); and (ii) if there is a cause-effect relation between the misanalysis of (some) expletive subjects and the acceptance of null subjects in English, then the L2ers that accept the misuse of "it's" as a verb should also allow null subjects and those who reject the use of "it's" as a verb should also reject null subjects in English. To test these predictions and, by extension, the Expletive Misanalysis Hypothesis, I conducted an

exploratory follow-up experiment with EP speakers of English. Its design and results are reported in the next section.

9.7. Follow-up study

The purpose of the exploratory follow-up study was to address the following questions:

i. Do intermediate and low-advanced EP speakers of English accept the misuse of "it's" as a verbal form?

ii. Do the L2ers who accept that misuse also accept null expletive subjects in English?

iii. Do the L2ers who reject that misuse also reject null expletive subjects in English?

These questions were investigated by means of a speeded acceptability judgement task, since this was the only task that was able to tap into implicit linguistic knowledge in the main study. The task tested two conditions: (i) null expletive subjects in embedded clauses[173], and (ii) "it's" in sentences with the order *subject + "it's" + adjectives*. There were 6 experimental items per condition and 36 fillers (cf. Appendix E).[174] Table 9.10 presents sample experimental items.

Null expletive subjects in embedded clauses	**Ungrammatical "it's"**
Context: Why didn't these countries seek the approval of the United Nations (UN)?	Context: Do you like this restaurant?
Because at the time was clear that the UN was against their proposal	*Yes! The food it's delicious and affordable*

Table 9.10. *Sample items from the follow-up experiment*

A total of 21 native speakers of EP participated in the experiment. They were divided into two groups depending on their level of proficiency in English, which was assessed by means of the Oxford Quick Placement Test. The intermediate group (B2 level)

[173] To test condition (i), I used the same sentences that had been used in the previous speeded acceptability judgement task, but made some changes to the contexts in which they were embedded.

[174] The task included 36 fillers with the following types of structures: (i) SV in narrow focus context (*n*=6); (ii) VS in narrow focus context (*n*=6); (iii) SV in sentence focus context (*n*=6); (iv) VS in sentence focus context (*n*=6); (v) overt referential subjects (*n*=6); and (vi) SVO answers to yes/no questions (*n*=6). This task included significantly more fillers than the tasks in the main study because it was administered as part of the pre-test of the study which will be presented in chapter 12. As will be explained in chapter 13, for the purposes of that study, we were exclusively interested in L2ers' answers to items (i) to (iv).

consisted of 11 university students ranging in age from 18 to 28. The low-advanced group (C1 level) consisted of 10 students from the same university with ages ranging from 18 to 24. Further details about their linguistic profile are presented in table 9.11.

Group	***Age***		***Age of onset of English acquisition***		***Years of English language learning in an instructional setting***		***Years of residence in an English-speaking country***	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
B2 group	19.73	2.73	7.27	1.48	11.36	2.23	0	0
C1 group	20.30	1.85	8.20	1.40	9.00	1.48	0.10	0.30

Table 9.11. *Biographical data of the participants*

The results of the speeded acceptability judgement task, which are presented in fig 9.8, show that the misuse of "it's" as a verbal form is clearly accepted at an intermediate stage of L1 EP - L2 English acquisition, just as the Expletive Misanalysis Hypothesis would predict. Nevertheless, the level of acceptance of this misuse significantly decreases at a low-advanced stage (estimate=-1.5924, SE=0.4666, *t*=-3.413)[175], reaching a mean rating of 2.98 (on a scale of 1 to 5), which indicates that, at this stage, the misuse of "it's" is neither accepted nor consistently rejected. As one would expect under the Expletive Misanalysis Hypothesis, acceptance of null expletive subjects is also high at an intermediate stage of L1 EP - L2 English acquisition and significantly decreases at a low-advanced level (estimate=-0.9758, SE=0.4362, *t*=-2.237), thus accompanying the decline in the acceptance of the use of "it's" as a verbal form.

When individual results are considered, it becomes clear that there is a correlation between the acceptability of "it's" as a verbal form and the availability of null expletives. In the two groups, the speakers who do not reject the misuse of "it's" (no rejection=median $\geq$ 3) also fail to reject null expletive subjects. Likewise, the speakers who reject the misuse of "it's" (rejection=median $\leq$ 2) also reject null expletive subjects. There is only one exception to this rule: one of the low-advanced L2ers accepted null expletive subjects in English, but, simultaneously, rejected the use of "it's" as a verbal form. This exceptional case represents only 5% of the L2ers tested.

[175] The statistical analysis was conducted using a linear mixed effects model with crossed random effects for subjects and items. The variable "group" was the only fixed effect.

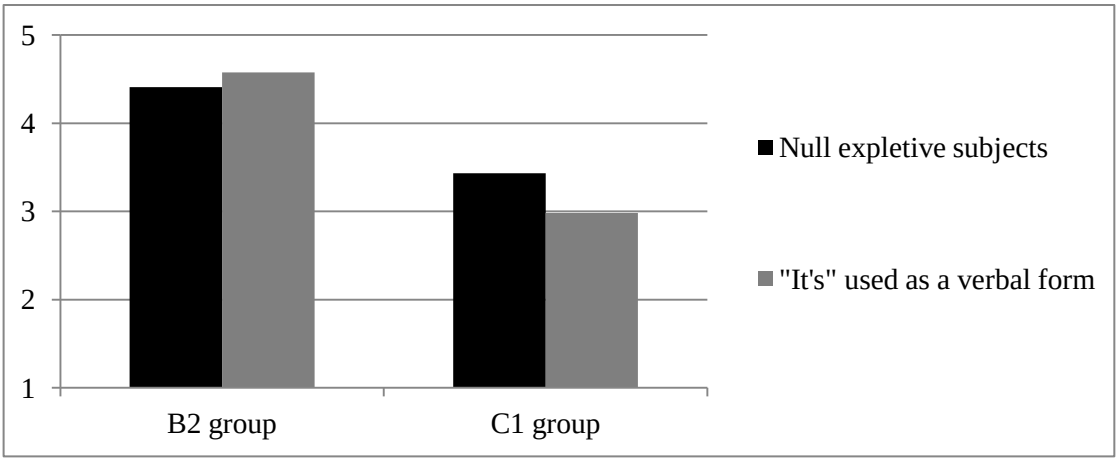


Fig 9.8. *Mean acceptance rates of null expletive subjects and "it's" in the speeded acceptability judgement task (scale 1-5)*

Taken together, individual and group results suggest that EP speakers of English misanalyse "it's" as syntactically equivalent to "is" up to an intermediate level of proficiency and only start abandoning this analysis (though not in a consistent way) at a low-advanced level. They further suggest that null expletive subjects are licensed (almost) exclusively in the grammars of the L2ers who misanalyse "it's". These results are, therefore, consistent with the hypothesis put forth in section 9.7 that EP speakers of English acquire the syntax of subjects late, because they misanalyse (some of) the sequences with the order "overt expletive subject + verb" until relatively late stages of acquisition and, as a result, overlook the presence of (some) overt expletive subjects in the L2 input, which is the key piece of positive evidence for triggering NSP resetting.

9.8. Summary

In conclusion, the results obtained in the present chapter show that the syntax of subjects is completely acquirable even in language pairings which give rise to significant developmental problems, such as L1 NSL - L2 NNSL pairings, which lends support to the IH and disconfirms Judy's (2011) and Judy and Rothman's (2010) predictions about ultimate attainment. In L1 NSL - L2 NNSL pairings, the syntax of subjects is fully acquired only at highly advanced stages of L2 development probably because (some of) the overt expletive subjects in the L2 input are misanalysed until relatively late stages of acquisition. Independent evidence in favour of this hypothesis comes from the fact that EP speakers of English fail to consistently reject the misuse of "it's" as a verb even at a low-advanced level of proficiency. Though attractive, the Expletive Misanalysis Hypothesis put forth in this chapter still needs to be investigated

with a larger number of speakers with different levels of proficiency and L1s, including NNSLs, before firmer conclusions can be reached with respect to its validity.

Chapter 10

Locative inversion in advanced and near-native English

10.1. Introduction

While "narrow" syntax is completely acquirable in an L2, the interface between syntax and discourse seems to be potentially problematic at the end state of acquisition. Although this interface has been the focus of much GenSLA research in recent years, the following questions are still a matter of debate among linguists: (i) Is the syntax-discourse interface necessarily a locus of permanent divergence in an L2? (ii) Are the problems at this interface situated at the level of representation or at the level of processing? (iii) What factor or combination of factors causes these problems?

As explained in chapter 7, at present, there are at least two competing hypotheses on these issues: the IH and the LIH. According to the IH (Sorace & Filiaci, 2006, Sorace, 2011c), the interface between syntax and discourse is necessarily a locus of residual, but permanent, optionality at the best attainable final state of L2 acquisition − the near-native level − because L2ers are less than optimally efficient at integrating syntactic and contextual information in real-time language use as a by-product of bilingualism. According to the LIH (Domínguez & Arche, 2014; Slabakova, 2015a), the structures that involve the syntax-discourse interface are not always problematic at advanced levels of L2 acquisition. They only pose difficulties when (i) their properties are different in the L1 and the L2, and (ii) the evidence available in the input is not transparent (e.g., because the structure is infrequent). At this point, it is unclear which (if any) of these hypotheses is correct not only because previous GenSLA studies yielded mixed results, but also because most of them overlooked input factors and exclusively used untimed offline tasks, which are not the most appropriate tasks for testing the type of optionality predicted by the IH, i.e., optionality caused by processing inefficiencies (for details, cf. chapter 7). Further research is, therefore, needed.

With a view to testing the IH against the LIH, the present chapter investigates the acquisition of an understudied construction – (light) locative inversion[176] − by

[176] Recall that, as Culicover and Levine (2001) and Rizzi and Shlonsky (2006) propose, English has two structurally-distinct types of locative inversion: (i) light locative inversion, i.e., inversion with a light

advanced and near-native speakers of English whose L1s are EP and French. As described in detail in chapter 4, locative inversion is a structure at the syntax-discourse interface, which is only admitted in English when (i) the fronted locative is a stage topic (discourse constraint), (ii) the subject is part of the focus (discourse constraint), and (iii) the verb is syntactically unaccusative (lexical-syntactic constraint[177]) and compatible with a presentational function (discourse constraint). In general, the verbs that satisfy these constraints are (i) the unaccusatives which denote existence or appearance and (ii) the unergatives which express a prototypical activity of the referent of the subject and are, thus, unnoteworthy in relation to the subject. The latter verbs, which I call "redundant unergatives", do not violate the unaccusative constraint, because they are not "true" unergatives. As explained in chapter 4, in English, unergative verbs oscillate between unergative and unaccusative behaviour according to pragmatic factors such as their predictability and noteworthiness in relation to the subject. When unergative verbs are pragmatically unpredictable and noteworthy, they exhibit an unergative behaviour. Conversely, when these verbs are pragmatically predictable and unnoteworthy in relation to the subject, i.e., when they are redundant, they adopt an unaccusative behaviour at the level of syntax and semantics. Hence, the distribution of unergative verbs in locative inversion involves not only lexical, syntactic and discourse conditions, but also pragmatic factors.

The acquisition of locative inversion in L1 EP - L2 English and L1 French - L2 English is an appropriate testing ground for the IH and the LIH not only because this construction is situated at the syntax-discourse interface, but also because of two other reasons. First, locative inversion is infrequent in English (cf. Biber et al., 1999; Dorgeloh, 1997) and rarely taught in English courses. Second, this type of inversion is subject to identical constraints in English and French, but, crucially, not in EP. As shown in part I, while English and French admit locative inversion almost exclusively with unaccusative verbs of existence and appearance and redundant unergatives, EP allows it with all types of intransitive verbs. There are only two similarities between EP, on the one hand, and English and French, on the other: the three languages require the

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subject which is base-generated in the object position of the VP and stays *in situ*, and (ii) heavy locative inversion, i.e., inversion with a structurally (very) heavy subject which is heavy-DP shifted to a right-adjoined position. The present study focuses exclusively on light locative inversion.

[177] As previously noted in chapter 4, section 4.2.2, I assume with Sorace (2006: 111) that "there are two sides to the split intransitivity question: a syntactic side (the structural configuration that determines unaccusativity or unergativity) and a lexicon–syntax interface side (the mapping system that decides the syntactic behaviour of any given verb)" .

post-verbal subject of locative inversion to be (part of) the focus and its pre-verbal XP to be a stage topic. Due to these facts, the IH and the LIH make very different predictions about the L2 acquisition of locative inversion by EP and French L1 speakers.

The predictions of the IH and of the LIH about the questions investigated by the present study are presented in section 10.2. The rest of the chapter is structured as follows: section 10.3 describes the experimental design of the study. In section 10.4, I explain how data were statistically analysed. Sections 10.5 and 10.6 report and discuss the results of the study. Finally, its conclusions are summarised in section 10.7.

10.2. Research questions and predictions

In the light of the current state of the art, described in detail in chapter 7, the following research questions were formulated:

i. Do near-native and/or advanced L2ers of English exhibit optionality with respect to the discourse-conditioned properties of locative inversion, namely (a) the lexicon-syntax-discourse conditions which govern the distribution of intransitive verbs, and (b) the discourse conditions which determine whether the subject can occur post-verbally and whether the locative can be fronted?

ii. If advanced and/or near-native L2ers exhibit difficulties regarding locative inversion, are they an effect of bilingual processing and/or of other factors, such as L1 influence?

As shown in table 10.1, the IH and the LIH make different predictions about these questions.

Questions	*IH*	*LIH*
i	EP and French speakers of English will display some level of optionality with respect to all the discourse-conditioned properties of locative inversion at advanced and near-native levels, even when their underlying linguistic representations are native-like.	French L2ers of English will behave native-like, particularly at a near-native level. In contrast, advanced and near-native EP speakers of English will display divergence with respect to the properties of locative inversion which are different in their L1 and L2 (i.e., the distribution of verbs), but crucially not with respect to the ones which are similar (i.e., the discourse contexts where locative inversion is felicitous).
ii	Even if advanced and near-natives L2ers' linguistic representations are target-like, they will be inefficient in the integration of (lexical-)syntactic and discourse information in real time as a by-product of bilingualism. For this reason, all L2ers will exhibit problems, regardless of whether their L1 is similar to or different from the L2. However, at least in some cases, these problems may only be captured by tasks that give insights into real-time processing.	Advanced and near-native L2ers' problems with respect to locative inversion will be caused by the negative influence of their L1 on their L2 representations and the fact that this type of inversion is infrequent in English (cf. chapter 4). Due to the latter fact, deviant L1-based hypotheses about locative inversion will remain largely unchallenged, which will cause persistent divergence in L1 EP-L2 English.

Table 10.1. *Predictions of the IH and the LIH about our research questions*

10.3. Experimental design

A total of 26 monolingual speakers of English, 26 French L2ers of English (11 near-native + 15 advanced L2ers) and 28 Portuguese L2ers of English (11 near-native + 17 advanced L2ers) participated in the present study (for a description of their profiles, cf. chapter 8, section 8.3). These participants were administered a battery of tasks which tested, on the one hand, the *types of intransitive verbs* allowed in locative inversion – unaccusatives of existence and appearance *vs.* unaccusatives of change of state *vs.* redundant unergatives *vs.* non-redundant unergatives – and, on the other, the *types of discourse contexts* compatible with this inversion – locative topic + narrow focus on the subject *vs.* locative topic + wide focus on the subject and the verb *vs.* locative focus + topical subject *vs.* all focus. While the variable "type of intransitive verb" was tested by means of a speeded acceptability judgement task, a syntactic priming task and a drag-and-drop task, the variable "type of discourse context" was only tested through a

speeded acceptability judgement task and a drag-and-drop task (for details on the design of these tasks, cf. chapter 8, section 8.4). All tasks included 6 items per condition and as many fillers as experimental items, as shown in table 10.2.

Task	***Items***		
	Experimental items	**Fillers**	**Total**
Each task on the type of verb	24	24	48
Each task on the type of discourse context	18	18	36[178]

Table 10.2. *Number of items per task*

Experimental items were composed of a 3-word definite locative PP, a verb in the simple past (cf. the list of verbs in table 10.3[179]), and an indefinite subject with 3 to 4 words[180] (except in the syntactic priming task, where it had 2 words). In the tasks which tested the variable "type of discourse context", experimental items always included unaccusative verbs of existence and appearance. In the tasks which focused on the variable "type of verb", locative inversion structures were preceded by a context, with 23 to 27 words,[181] which induced a topical interpretation of the locative and a focal interpretation of the verb and the subject. This is because this discourse context is the one where locative inversion seems to be more readily accepted in English. Sample test sentences are presented in table 10.4 (for the complete tests, cf. Appendix F).

Type of verb	***Verbs used***
Unaccusative verbs of existence and appearance	*appear*, *arrive*, *come*, *emerge*, *enter* and *live*
Externally-caused unaccusative verbs of change of state	*break*, *burn*, *defrost*, *explode*, *melt* and *smash*[182]
Redundant unergative verbs	*fly* (with birds), *flutter* (with flag), *glitter* (with diamond or ring), *swim* (with fish), *tick* (with clock) and *wave* (with flag)
Non-redundant unergatives	*cough*, *laugh*, *shop*, *sneeze*, *talk* and *vomit*

Table 10.3. *Verbs used in the experimental items which tested locative inversion*

[178] In the tasks which focused on the variable "type of intransitive verb", locative inversions were always preceded by contexts where the locative was the topic and the rest of the sentence was the focus. For this reason, to reduce the number of items in the experiments on the type of discourse context, I decided to test the context "locative topic + wide focus" only through the experiments on the type of verb.

[179] These verbs were selected on the basis of the lists of verbs (un)attested in English locative inversion that Levin and Rappaport Hovav (1995: 285-286) and Levin (1993: 92-94) drew up after analysing their corpus of locative inversion structures.

[180] All 4-word subjects included the expression *a lot of*.

[181] To test the variable "type of discourse context", we used short questions instead of a long context in order to make the discourse status of the locative, verb and subject that appeared afterwards very salient to the participant.

[182] In the syntactic priming task, I used the verb *dry* instead of *smash*.

Type of intransitive verb	***Type of discourse context***
Unaccusative of existence and appearance: As the music started, our attention was attracted towards the wooden stage of the theatre. Then, at 8 o'clock, the curtain rose and… on the stage appeared a gospel singer.	*Locative topic + wide focus:* tested through the items which tested unaccusatives of existence and appearance in the tasks on the variable "type of intransitive verb"
Unaccusative of change of state:[183] Another winter storm hit New York on Monday, causing traffic jams in the streets of the city. Yesterday the weather conditions improved and… on the streets melted a lot of snow.	*Locative topic + narrow subject focus:* A: Who lived in this house? B: In this house lived two old ladies.
Redundant unergative: To the right, I could see the top of one of Portland's many bridges, one I may have crossed once but I can't recall. Above the bridge flew flocks of seagulls.	*Topical subject + locative focus:* A: Why is everybody talking about our 7th-grade students? What did they do? B: On BBC news appeared some of them.
Non-redundant unergative:[184] I have happy memories of my childhood in San Francisco. I lived next to a supermarket owned by a family of Indian immigrants. At this supermarket shopped many old ladies.	*All focus:* A: Why are you surprised at what you're reading in the newspaper? What happened? B: On the street lived two French ministers.

Table 10.4. *Sample test sentences per condition*

The experimental tasks used in this study imposed very different demands on participants' cognitive resources. As explained in detail in chapter 8, while, in untimed drag-and-drop tasks, participants have some time to perform a complete reanalysis of the stimuli, reflect on their answers and modify them,[185] in syntactic priming and speeded acceptability judgement tasks, the time pressure to which they are subject

[183] In the items which tested unaccusative verbs of change of state, subjects were carefully chosen to block a presentational reading of the verb and force an interpretation involving external causation. Take the example of the verb *burn*. As noted by Levin and Rappaport Hovav (1995), in English, *burn* can be accepted in locative inversion depending on what it is predicated of. When it occurs with subjects which refer to things that can be consumed by fire, such as wood, paper or houses, it is not generally allowed in locative inversion. In contrast, when *burn* is predicated of things whose existence is characterised by burning, such as candles or fires, it can undergo locative inversion. This is because, in the latter case, the verb *burn* is compatible with a presentational reading (e.g., a sentence like *on my desk burnt a thick candle* is not much different from a sentence like *on my desk was a thick candle*). To block this reading, in experimental items, I always used the verb *burn* with subjects whose referents can be consumed by fire but are not designed to "burn".

[184] Given that, unlike English, French admits locative inversion with non-redundant unergative verbs when the activity they express prototypically takes place in the location to which the locative PP refers, I avoided using locative PPs semantically related to the verb in the items which tested non-redundant unergatives. The example provided in table 10.4 was the only exception to this rule. I decided to use this sentence for two reasons. The first is that, in the pilot tests, French speakers did not accept it. The second is that, in the pilot tests, English speakers had more determinate intuitions about this sentence than about other sentences that did not make the final cut.

[185] Note that, as locative inversion, in general, and the properties under test, in particular, are not typically taught in English courses, the L2ers who took part in this study were highly unlikely to possess explicit knowledge about them. For this reason, a target performance in the drag-and-drop task may be interpreted as evidence that these L2ers' implicit knowledge representations are target-like (cf. section 10.6).

prevents this and puts significant load on their cognitive resources. For this reason, the latter tasks may capture processing inefficiencies at the syntax-discourse interface which an untimed offline task such as the drag-and-drop task may not be able to detect. The combination of speeded and untimed experimental tasks is, thus, fundamental for testing the predictions of IH about the acquisition of English locative inversion against those of the LIH.

10.4. Data analysis

In this study, statistical analyses were conducted on R using two different types of mixed-effects models: (i) linear mixed-effects models for the speeded acceptability judgement tasks and (ii) mixed logit models for the drag-and-drop tasks and the syntactic priming task. This is because these tasks had different types of dependent variables: a multinomial variable (more precisely, a 1-5 scale), in the case of the acceptability judgement tasks, and a binomial dependent variable (codified as locative inversion=1 and no locative inversion=0), in the case of the other tasks. In all statistical analyses, the variables "type of verb", "type of discourse context" and (where appropriate) "group" were modelled as fixed effects and the variables "items" and "subjects" were modelled as random effects. Analyses included random intercepts for subjects and items, by-subject random slopes for within-subjects variables (i.e., the variable "discourse context" in the tasks on the type of discourse context, and the variable "verb" in the tasks on the types of intransitive verbs which admit locative inversion) and their interaction, and by-item random slopes for group (in between-group analyses only) (for further details on data analysis, cf. chapter 8).

10.5. Results

In the present study, L2 and L1 speakers behaved in a different way with respect to English locative inversion. While L2ers' behaviour varied across tasks, L1 speakers were able to consistently distinguish the conditions under which locative inversion is acceptable in English from the ones under which it is unacceptable, even in the experimental tasks that were taxing on their processing resources. A detailed description of L2 and L1 speakers' results in each of the five experiments to which they were subject is presented below.

10.5.1. *Experiments on the types of intransitive verbs*

In the experiments on the distribution of verbs in locative inversion, the group of monolingual speakers of English accepted and produced this type of inversion significantly more with redundant unergative verbs and unaccusative verbs of existence and appearance than with the other subclasses of intransitive verbs (drag-and-drop task: estimate=-3.6198, SE=0.4019, $p<0.001$; syntactic priming task: estimate=-3.2130, SE=1.0609, $p=0.00246$; speeded acceptability judgement task: estimate=-1.61859, SE=0.18224, t=-8.88). Such consistency is not, however, found in L2ers' responses. These speakers performed differently according to the cognitive load of the task.

Let us first examine L2ers' results in the less demanding task which was administered to them – the drag-and-drop task. As fig 10.1 and table 10.5 show, in this task, all groups of L2ers produced significantly more locative inversion structures with redundant unergative verbs and unaccusative verbs of existence and appearance than with the other verb classes, just as English monolinguals did.[186] There was only one difference between the groups of L2ers and the monolingual group: the former produced significantly less locative inversion than the latter in the conditions which were compatible with this type of inversion (ADV L1 FR: estimate=-3.1506, SE=0.7908, $p<0.001$; NN L1 FR: estimate=-2.5586, SE=0.9734, $p=0.00857$; ADV L1 EP: estimate=-1.7998, SE=0.5824, $p=0.0020$; NN L1 EP: estimate=-1.6218, SE=0.8535, $p=0.05743$[187]). Given that, despite underproducing locative inversion, all L2 groups were able to clearly differentiate the verbs which can undergo locative inversion from the ones which cannot, their performance can be classed as near-native.[188]

[186] To determine whether group results were hiding individual optionality, I counted the number of speakers of each group who produced the order PPVS in 3 or more items of every experimental condition. Note that I established the threshold of 3 items, because it corresponds to half of the items to which participants had to respond in each experimental condition. I assume that if they produced 3 or more PPVS orders, their performance was, at least, at chance level and, hence, the type of verb being tested was not clearly rejected. After preparing datasets where answers were codified as 1= 'produced the order PPVS in 3 or more items of every condition' and 0= 'did not produce the order PPVS in 3 or more items of every condition', I ran mixed logit analyses (with random effects for subjects) on R. These analyses confirmed that the difference between the monolinguals and each of the groups of L2ers was not statistically significant (all $ps\geq0.854062$), even though the percentages of speakers who displayed optionality within each group were slightly different: L1 ENG=15%, NN L1 FR=9%, ADV L1 FR=7%, NN L1 EP=27%, ADV L1 EP=12%.

[187] This p-value indicates that the difference between the Portuguese near-natives and the English controls is marginally significant.

[188] I only present here participants' results regarding PPVS orders, because the focus of the study is on locative inversion. It should, nevertheless, be noted that, in this drag-and-drop task, all groups of participants produced (PP)SV(PP) orders in 100% of the experimental items. The group of advanced EP speakers of English moreover produced sentences with the order VSPP and VPPS. Statistical analyses,

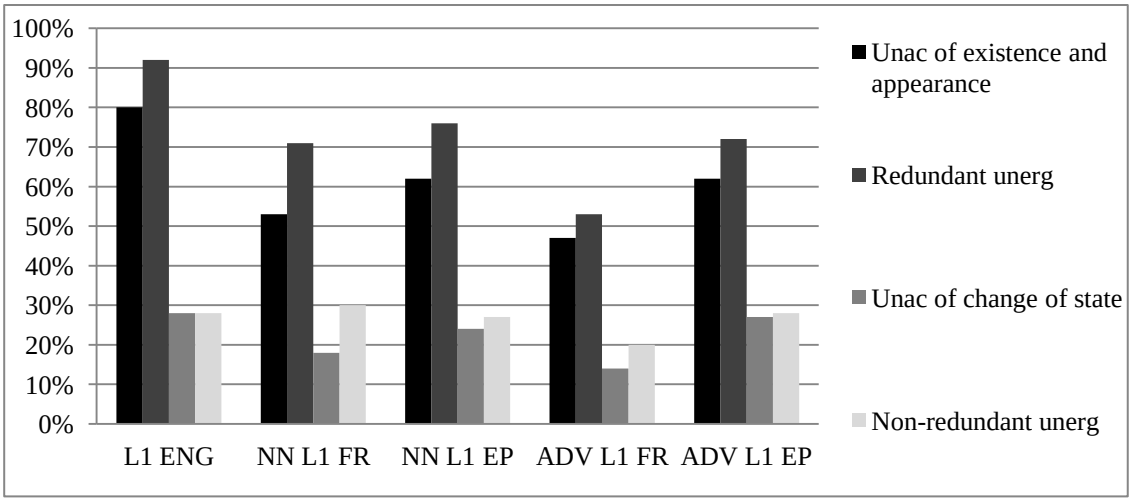

Fig. 10.1. *% of locative inversion structures produced in the drag-and-drop task 1*

		Unac. of existence and appearance vs. unac. of change of state	***Redundant unerg. vs. non-redundant unerg.***	***Unac. of existence and appearance vs. non-redundant unerg.***	***Redundant unerg. vs. unac. of change of state***
L1 ENG	Estimate	2.8862	6.836	2.9017	6.450
	SE	0.4770	2.716	0.4856	2.227
	p	<0.001[a]	0.0118[a]	<0.001[a]	0.00378[a]
NN L1 FR	Estimate	2.8156	3.7454	2.3355	4.2311
	SE	1.0978	1.1391	1.3126	1.0417
	p	0.0103[a]	0.00101[a]	0.0752[b]	<0.001[a]
NN L1 EP	Estimate	2.9956	3.1532	2.3338	3.3611
	SE	0.8347	0.6412	0.6464	0.7126
	p	<0.001[a]	<0.001[a]	<0.001[a]	<0.001[a]
ADV L1 FR	Estimate	2.3089	2.809	2.2454	2.8078
	SE	0.8581	1.044	1.1101	0.8333
	p	0.00713[a]	0.00714[a]	0.0431[a]	<0.001[a]
ADV L1 EP	Estimate	1.9145	2.37298	1.8466	2.43440
	SE	0.5659	0.52958	0.3946	0.60543
	p	<0.001[a]	<0.001[a]	<0.001[a]	<0.001[a]

Legend: [a]=statistically significant [b]= nearly statistical

Table 10.5. *Within-groups comparisons of the results of the drag-and-drop task 1 (statistical model: mixed logit)*

In the syntactic priming task, all groups produced relatively lower percentages of locative inversion than in the drag-and-drop task, including the control group (see fig. 10.2).[189] Possibly, this is because the priming task required participants to orally produce sentences out of context, which is not a situation where locative inversion would typically occur in English. As noted in chapter 4, this construction is generally used in writing when the locative is a stage topic and the subject is part of the focus. For this

however, revealed that the difference between this group and the English controls with respect to V(PP)S(PP) orders is not statistical (estimate=75.1, SE=425.0, *p*=0.860).

[189] When they did not use the order PPVS, participants produced either SVPP orders or PPSV orders.

reason, in the syntactic priming task, participants might have perceived the production of locative inversion as unnatural, which might have partially blocked the syntactic priming effect the task aimed to induce.

Crucially, despite producing low percentages of locative inversion, in this task, the group of English monolinguals made a clear distinction between redundant unergatives and unaccusatives of existence and appearance, on the one hand, and non-redundant unergatives and change-of-state unaccusatives, on the other, producing significantly more locative inversion structures with the former verb classes than with the latter (acceptable *vs.* unacceptable verbs: estimate=-3.2130, SE=1.0609, *p*=0.00246 – cf. also table 10.6). Their results in this task are, thus, in line with the ones they obtained in the drag-and-drop task. The same cannot be said of L2ers' results. While, in the drag-and-drop task, all L2 groups were able to distinguish the verbs which allowed locative inversion from the ones which disallowed it, in the syntactic priming task, only one group was able to do it − the group of French near-natives (acceptable *vs.* unacceptable verbs: estimate=-1.6847, SE=0.6198, *p*=0.00657– cf. also table 10.6).[190] These near-natives, however, did not behave fully native-like, for they used slightly more locative inversion structures with change-of-state unaccusatives and non-redundant unergatives than the English controls (estimate=1.9825, SE=1.1928, *p*=0.096504[191]).

The other L2 groups tested in the syntactic priming task displayed indeterminacy regarding the distribution of verbs in locative inversion. On the one hand, the French speakers who had an advanced level of English treated all verbs alike with the exception of non-redundant unergatives, which were significantly less accepted than the verbs that are generally acceptable in English locative inversion (non-redundant unerg. *vs.* acceptable verbs: estimate=2.0349, SE=0.8885, *p*=0.022, but unac. of existence and appearance *vs.* unac. of change of state: *p*=0.24031; unac. of change of state *vs.*

[190] To determine whether group results were hiding optionality in individual results, I counted the number of French near-natives and English monolinguals who produced the order PPVS in at least 3 items of each condition. Note that I established the threshold of 3 items, because it corresponds to half of the items to which participants had to respond in each experimental condition. Afterwards, I prepared a dataset where answers were codified as 1= 'produced the order PPVS in 3 or more items of each condition' and 0= 'did not produce the order PPVS in 3 or more items of each condition' and run a mixed logit analysis (with random effects for subjects) on R. This analysis confirmed that the difference between the monolinguals and the French near-natives was not significant (estimate=0.5674, SE=5.1844, *p*= 0.91286), even though the percentages of speakers who displayed optionality within each of these groups were slightly different: 18.18% in the near-native group and 11.54% in the monolingual group.

[191] This *p*-value is nearly statistical.

redundant unerg.: p=0.19846 – cf. table 10.6). The groups of native speakers of EP, on the other hand, made no distinction between redundant unergatives, which admit locative inversion, and the verb classes that are incompatible with this structure, i.e., "true" unergative verbs and unaccusatives of change of state (redundant *vs.* non-redundant unerg.: $ps \geq 0.3267$; unac. of change of state *vs.* redundant unerg.: $ps \geq 0.197$ – cf. table 10.6). This fact indicates that, unlike the group of advanced French L2ers of English, EP speakers were not sensitive to the pragmatic factors (notably, the predictability and noteworthiness of the subject in relation to the verb) that impact on the syntactic behaviour of unergative verbs and, ultimately, determine whether a given unergative is (un)grammatical in English locative inversion.[192] The only class of verbs that EP speakers treated differently from the rest was the class of unaccusative verbs of existence and appearance. As shown in fig. 10.2, they produced significantly more locative inversion structures with these verbs than with the other verb classes (ADV L1 EP estimate=-0.7624, SE=0.3221, p=0.0179, NN L1 EP estimate=-1.3953, SE=0.6054, p=0.0212). Since the groups of EP speakers and the group of advanced French L2ers produced low percentages of locative inversion (≤41%) across all conditions, and did not differentiate, in a consistent way, all the conditions which are compatible with this type of inversion in English from the ones which are incompatible, it can be concluded that their behaviour was indeterminate in this task.[193]

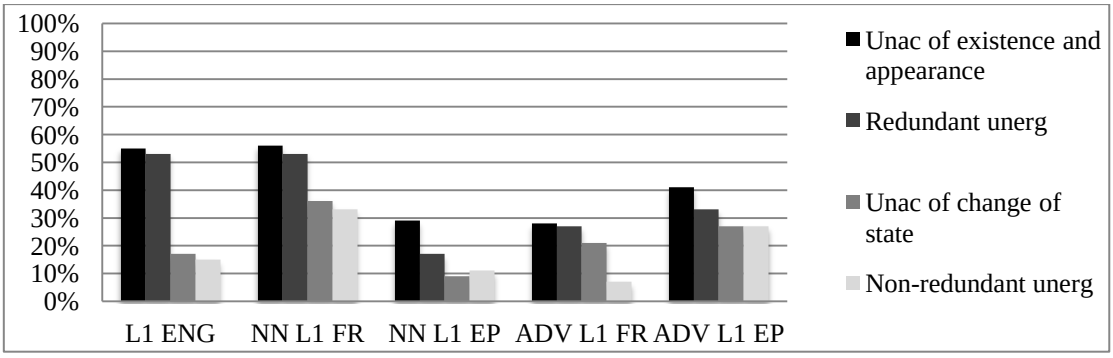

Fig. 10.2. *% of locative inversion structures produced in the syntactic priming task*

[192] Recall that, as argued in chapter 4, unergative verbs fluctuate between unaccusative and unergative behaviour according to pragmatic factors such as the predictability and noteworthiness of the verb-subject relation. Locative inversion is only grammatical with the unergatives that behave as unaccusatives.

[193] Though similar, indeterminacy and optionality are distinct phenomena. The performance of a group is indeterminate when (i) participants exhibit a low level of production/acceptance of a structure S across all conditions, including those where the control group allows this word order, and (ii) do not differentiate between the conditions which are compatible with S and those which are not. In contrast, the behaviour of a group is optional when (i) it displays a higher level of acceptance/production of a structure S than the control group, at least in the conditions which disfavour S, and (ii) does not make any statistically significant distinction between the conditions which are compatible with S and (some of) those which are not (see Lozano, 2008b).

		Unac. of existence and appearance vs. unac. of change of state	*Redundant unerg. vs. non-redundant unerg*	*Unac. of existence and appearance vs. non-redundant unerg.*	*Redundant unerg. vs. unac. of change of state*
L1 ENG	Estimate	2.7096	-4.391	5.304	2.6764
	SE	1.4084	1.460	2.347	1.0073
	p	0.0544 [b]	0.00263[a]	0.0239[a]	0.00788[a]
NN L1 FR	Estimate	-1.6526	-1.8423	2.2170	1.4040
	SE	0.7141	1.1403	1.0551	0.7497
	p	0.0207[a]	0.0868 [b]	0.0356 [a]	0.0611 [b]
NN L1 EP	Estimate	-1.984	-0.6030	1.8904	1.0951
	SE	1.024	0.8124	1.1710	0.8493
	p	0.052752 [b]	0.458	0.09543 [b]	0.197
ADV L1 FR	Estimate	-0.9324	-2.1273	2.4519	-0.9007
	SE	0.7940	0.9627	1.1694	0.7004
	p	0.24031	0.0271[a]	0.036013[a]	0.19846
ADV L1 EP	Estimate	0.7373	-0.4988	1.1576	0.1305
	SE	0.4413	0.5086	0.5052	0.4468
	p	0.0948 [b]	0.3267	0.0219[a]	0.77025

Legend: [a]=statistically significant [b] = nearly statistical

Table 10.6. *Within-groups comparisons of the results of the syntactic priming task (statistical model: mixed logit)*

Let us finally analyse the results of the speeded acceptability judgement task, which, like the syntactic priming task, is demanding in terms of processing. As shown in fig. 10.3 and table 10.7, in this task, all L2 groups accepted locative inversion considerably more with redundant unergatives and unaccusatives of appearance than with the other verb classes tested, just as the English monolinguals did (acceptable *vs.* unacceptable verbs: NN L1 FR estimate=-1.4318, SE=0.2957, *t*=-4.843; ADV L1 FR estimate=-0.8167, SE=.2309, *t*=-3.536; ADV L1 EP estimate=-0.9510, SE=0.2252, *t*=-4.224; NN L1 EP estimate=-1.0833, SE=0.2824, *t*=-3.836).

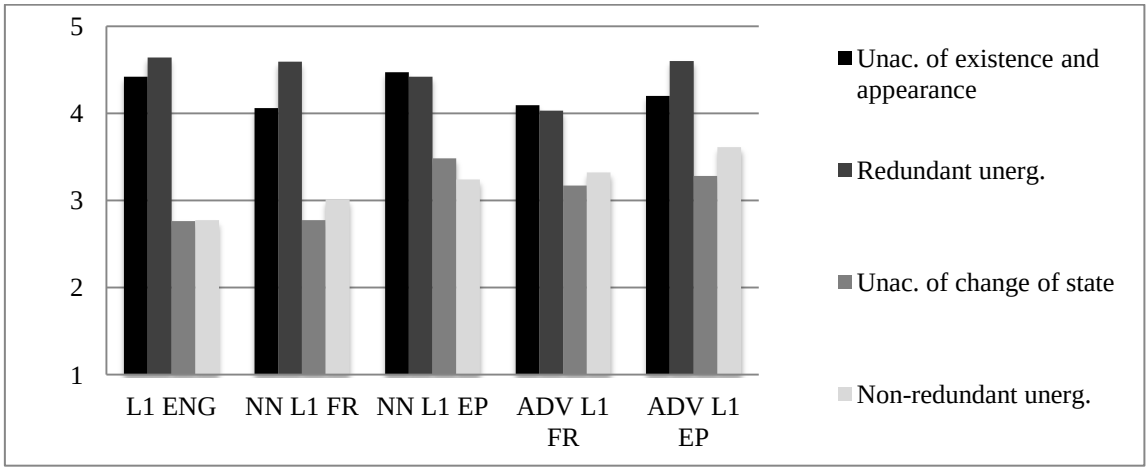

Fig. 10.3. *Mean acceptance ratings in the speeded acceptability judgement task 1 (scale 1-5)*

		Unac. of existence and appearance vs. unac. of change of state	*Redundant unerg. vs. non-redundant unerg.*	*Unac. of existence and appearance vs. non-redundant unerg.*	*Redundant unerg. vs. unac. of change of state*
L1 ENG	Estimate	1.6538	1.5833	1.3590	1.8782
	SE	0.2415	0.1939	0.2276	0.2210
	t	6.85[a]	8.16[a]	5.97[a]	8.5[a]
NN L1 FR	Estimate	-1.2879	-1.5758	1.0455	1.8182
	SE	0.3562	0.3194	0.3285	0.3695
	t	-3.615[a]	-4.933[a]	3.182[a]	4.921[a]
NN L1 EP	Estimate	0.9848	1.1818	1.2273	0.9394
	SE	0.3413	0.4352	0.4009	0.4094
	t	2.886[a]	2.715[a]	3.061[a]	2.294[a]
ADV L1 FR	Estimate	0.9222	0.7111	0.7667	0.8667
	SE	0.3118	0.2304	0.2309	0.3510
	t	2.958[a]	3.086[a]	3.32[a]	2.469[a]
ADV L1 EP	Estimate	0.9118	0.9902	0.5882	1.3137
	SE	0.2629	0.3175	0.3255	0.2729
	t	3.468[a]	3.118[a]	1.907 [b]	4.814[a]

Legend: [a]=statistically significant [b] = nearly statistical

Table 10.7. *Within-groups comparisons of the results of the speeded acceptability judgement task 1 (statistical model: linear mixed effects)*

Nevertheless, individual results indicate that, contrary to what might appear at first sight, L2ers did not perform native-like in this task. As shown in fig. 10.4, within all L2 groups, there was a significant number of participants who displayed optionality. In the groups of French speakers, 45% of the near-natives and 47% of the advanced L2ers had median[194] ratings above 3 across all experimental conditions, which means that they accepted (albeit to varying degrees) locative inversion with all the verb classes that were tested. In the groups of EP speakers, the percentages of L2ers with median ratings above 3 across conditions were even higher: 47% in the advanced group and 64% in the near-native one. Crucially, this optionality was not found in the group of English monolinguals. Only 8% of these speakers had median ratings greater than 3 across all conditions. Given that mixed logit models[195] confirmed that the differences between the control group and each L2 group are statistical (ADV L1 FR *vs.* L1 ENG: estimate=2.351, SE=1.137, p=0.0387; NN L1 FR *vs.* L1 ENG: estimate=2.3026, SE=0.9687, p=0.01746; ADV L1 EP *vs.* L1 ENG: estimate=2.3671, SE=1.0634, p=0.0260; NN L1 EP *vs.* L1 ENG: estimate=23.334, SE=6.818, p<0.001), it can be

[194]The median is a measure of central tendency which shows what the "likeliest" response of a participant is.

[195]Data were codified as 1=has a median >3 across conditions, 0=has a median ≤ 3. When the model did not produce stable results, the following optimizers were used: "bobyqa", "Nelder_Mead" or "nloptwrap".

concluded that all L2 groups exhibited some level of optionality regarding the types of verbs compatible with locative inversion.

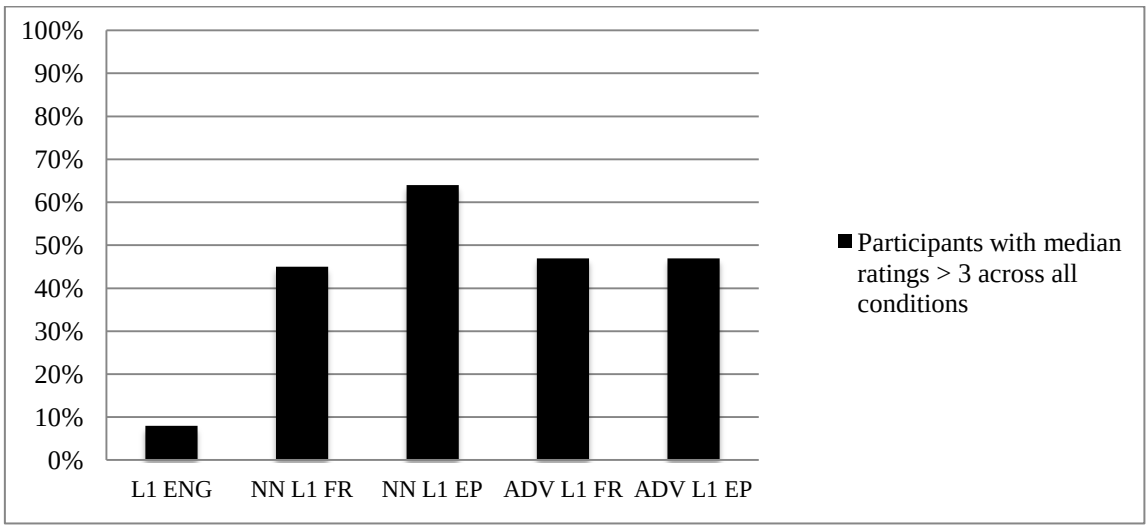

Fig. 10.4. *% of participants with median ratings >3 across all the experimental conditions of the speeded acceptability judgement task 1*

In short, L2ers' performance with respect to the distribution of verbs in locative inversion varied from task to task. In the task that was not demanding in terms of processing, all groups of L2ers showed sensitivity to the discourse and lexical-syntactic constraints to which verbs are subject, even when their L1 differed from the L2. Furthermore, they seemed to be sensitive to the fact that pragmatic factors, such as the predictability and noteworthiness of the subject-verb relation, influence the syntactic behaviour of unergative verbs and ultimately determine which unergatives are (un)acceptable in locative inversion. The results obtained in this task are, therefore, consistent with the findings of previous (untimed) offline studies on the acquisition of English (locative) inversion (e.g., Lozano & Mendikoetxea, 2008, 2010), which indicate that L2ers have no problems with respect to the distribution of verbs in this type of construction (for details, cf. chapter 7). The results of the tasks that give insights into processing, however, show that, when L2ers are placed under cognitive load, they are unable to consistently observe the lexicon-syntax-discourse constraints which govern the distribution of intransitive verbs in locative inversion, just as the IH predicts.

10.5.2. *Experiments on the types of discourse contexts*

As was the case in the experiments presented above, the group of English native speakers displayed a similar pattern of behaviour across all the tasks which tested the

types of discourse contexts (in)compatible with locative inversion. In these tasks, they allowed locative inversion exclusively in the contexts where the subject was narrowly focused and in the ones where the locative had a topic status and the subject and the verb were part of the focus.[196] While the monolingual group systematically distinguished these contexts from the other discourse contexts which were tested, i.e., locative focus + topical subject and all focus contexts (drag-and-drop task: estimate=-3.8341, SE=0.6251, $p<0.001$; speeded acceptability judgement task: estimate=-1.4867, SE=0.1813, t=-8.198), L2 groups did not always make this distinction. As will be shown below, their performance varied according to the cognitive load of the task.

In the drag-and-drop task,[197] only two groups of L2ers were able to consistently distinguish all the contexts where locative inversion is felicitous in English from the ones where it is infelicitous: the group of French near-natives (estimate=-5.248, SE=1.683, p=0.00182) and the group of EP speakers who had an advanced level of proficiency in English (estimate=-3.8106, SE=0.7911, $p<0.001$). As fig. 10.5 illustrates, despite displaying a target-like tendency to reject locative inversion when the subject is the sentence topic (ADV L1 FR: estimate=2.7074, SE=1.2071, p=0.02491; NN L1 EP: estimate=2.5429, SE=0.9161, p=0.00551; L1 ENG: estimate=4.2721, SE=1.1121, $p<0.001$) and a target-like preference for using this word order in the context where the locative is the topic and the rest of the sentence is the focus (ADV L1 FR: estimate=-1.4260, SE=0.8450, p=0.091485[198]; NN L1 EP: estimate=-2.7857, SE=0.8485, p=0.00103; L1 ENG: estimate=-3.8560, SE=0.8454, $p<0.001$), the other groups of L2ers tested in this study treated alike two contexts which are not equally compatible with locative inversion for English native speakers: narrow subject focus contexts and

[196] The group of native speakers of English exhibited a stronger preference for using locative inversion in the context where the locative is the topic and the rest of the sentence is the focus than in the context where the subject is narrowly focused (drag-and-drop task: estimate=-1.8942, SE=0.6253, p=0.00245; speeded acceptability judgement task: estimate=-0.6364, SE=0.3308, t= -1.924). This difference may be due to the fact that the items that tested the former context were short sequences of relatively formal written texts, whereas the items which tested the latter context included direct *wh*-questions, which are more frequently used in spoken English or informal writing (cf. section 10.3).

[197] Here we only present participants' results regarding PPVS orders, because the focus of our study is on locative inversion. It should, nevertheless, be noted that, in the drag-and-drop task, all groups of participants produced (PP)SV(PP) orders in 100% of the experimental items. The group of advanced EP speakers of English moreover produced sentences with the order VSPP and VPPS. Statistical analyses, however, revealed that the difference between this group and the English controls with respect to V(PP)S(PP) orders is not statistical (estimate=20.03, SE=146.83, p=0.891).

[198] This p-value is nearly statistical.

all focus contexts (*p*s≥0.23765 – cf. table 10.8).[199] In other words, they exhibited residual optionality. Note that even the L2 groups that were able to make target-like distinctions between felicitous and infelicitious contexts failed to perform completely native-like, as they produced significantly lower percentages of locative inversion than the English controls in the contexts where this word order is felicitous (ADV L1 EP *vs.* L1 ENG: estimate=-1.1693, SE=0.4475, *p*=0.00897; NN L1 FR *vs.* L1 ENG: estimate=-1.5142, SE=0.5754, *p*=0.0085).

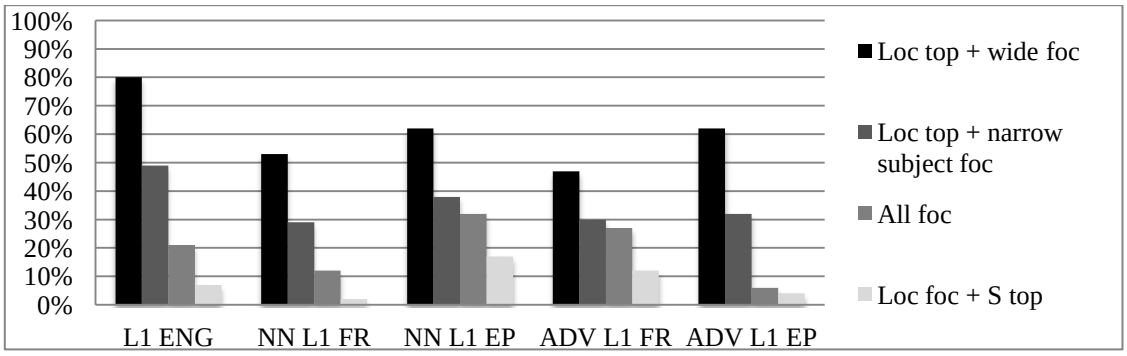

Fig. 10.5. *% of locative inversion structures produced in the drag-and-drop task 2*

		Loc top + narrow foc on S vs. All focus	***Loc top + narrow foc on S vs. Loc foc + top S***	***Loc top + wide foc vs. All focus***	***Loc top + wide foc vs. Loc foc + top S***
L1 ENG	Estimate	3.1856	3.7875	4.3159	5.5944
	SE	0.7348	0.8478	0.9791	1.1267
	p	<0.001[a]	<0.001[a]	<0.001[a]	<0.001[a]
NN L1 FR	Estimate	-4.816	2.804	5.091	6.772
	SE	2.820	1.452	2.031	2.914
	p	0.0876[b]	0.05354[b]	0.0122[a]	0.0201[a]
NN L1 EP	Estimate	0.699	-1.7688	-2.4004	4.1690
	SE	1.068	0.8169	0.9983	1.5075
	p	0.513	0.03037[a]	0.0162[a]	0.00568[a]
ADV L1 FR	Estimate	0.6996	2.1311	-1.7580	3.1865
	SE	0.5924	0.9490	0.8965	1.6937
	p	0.23765	0.024735[a]	0.0499[a]	0.0599[b]
ADV L1 EP	Estimate	2.3532	3.3869	3.7677	4.6334
	SE	0.8805	1.4294	0.6391	1.0804
	p	0.00753[a]	0.017814[a]	<0.001[a]	<0.001[a]

Legend: [a]=statistically significant [b]= nearly statistical

Table 10.8. *Within-groups comparisons of the results of the drag-and-drop task 2 (statistical model: mixed logit)*

[199] To determine whether the group results of French near-natives and advanced Portuguese L2ers of English were hiding individual optionality, I counted the number of speakers who produced the order PPVS in 3 or more items in the conditions "narrow subject focus" and "sentence focus". I then prepared datasets where answers were codified as 1= 'produced the order PPVS in 3 or more items in each of the two conditions' and 0= 'did not produce the order PPVS in 3 or more items in each of the two conditions' and ran mixed logit analyses (with random effects for subjects) on R. These analyses confirmed that the difference between the monolinguals and each of the L2 groups was not significant (*p*s≥0.9820) (percentages: L1 ENG=15%; NN L1 FR=9%; ADV L1 EP=0%)

The speeded acceptability judgement task yielded different results from the ones of the drag-and-drop task. With the exception of the group of advanced EP L2ers of English, in this acceptability judgement task, all groups of L2ers exhibited optionality regarding two discourse contexts which are not equally compatible with English locative inversion: all focus contexts and narrow subject focus contexts (NN L1 FR *t*=-0.377; ADV L1 FR *t*=0.707; NN L1 EP *t*=1.506, but L1 ENG *t*=4.66– cf. table 10.8). Despite being able to make (marginally) significant distinctions between felicitious and infelicitous contexts (cf. table 10.9), the group of advanced Portuguese L2ers failed to reject locative inversion in the contexts where the locative had a focal interpretation (median ratings in *Loc top + S foc contexts*=3; median ratings in *all foc contexts*=4) and attributed significantly higher ratings to inversion in these contexts than the English natives (estimate=0.61510, SE=0.27447, *t*=2.241).[200] Thus, this group also exhibited optionality.

Notwithstanding these problems, all groups of L2ers converged with the target language in two respects (cf. fig. 10.6). First, they were sensitive to the fact that the context where the locative had a focal interpretation and the subject was the topic was the least favourable context for locative inversion (dif. between this context and the others: NN L1 FR estimate=1.6465, SE=0.3095, *t*=5.319; ADV L1 FR estimate=1.1185, SE=0.3203, t= 3.492; NN L1 EP estimate=1.2323, SE=0.3449, *t*=3.573; ADV L1 EP estimate=1.1667, SE=0.3277, *t*=3.56; L1 ENG estimate=1.4400, SE=0.2969, *t*=4.851). Second, with the exception of the group of advanced EP speakers of English, all groups exhibited a preference for using this type of inversion in the contexts where the locative is the topic and the rest of the sentence is part of the focus (dif. between this context and the others: NN L1 FR estimate=-1.3434, SE=0.3653, *t*=-3.678; ADV L1 FR estimate=-0.8815, SE=0.3541, *t*= -2.49; NN L1 EP estimate=-1.2323, SE=0.3798, *t*=-3.245; ADV L1 EP estimate=-0.5588, SE=0.3642, *t*=-1.534[201]), just as the control group did (estimate=-1.3600, SE=0.3324, *t*=-4.092).

[200] No other group exhibited a statistically significant difference in this respect: ADV L1 FR estimate=0.3644, SE=0.2842, *t*=1.282; NN L1 FR estimate=-0.1679, SE=0.2716, *t*=-0.618; NN L1 EP estimate=0.30939, SE=0.30469, *t*=1.015.

[201] To determine whether this *t*-value was marginally significant, I estimated the *p* value from the *t* distribution as follows (from Baayen, 2008: 248): 2 * (1 - pt(abs(X), Y - Z))
Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. This formula estimated the following *p*-value: *p*=0.1258066.

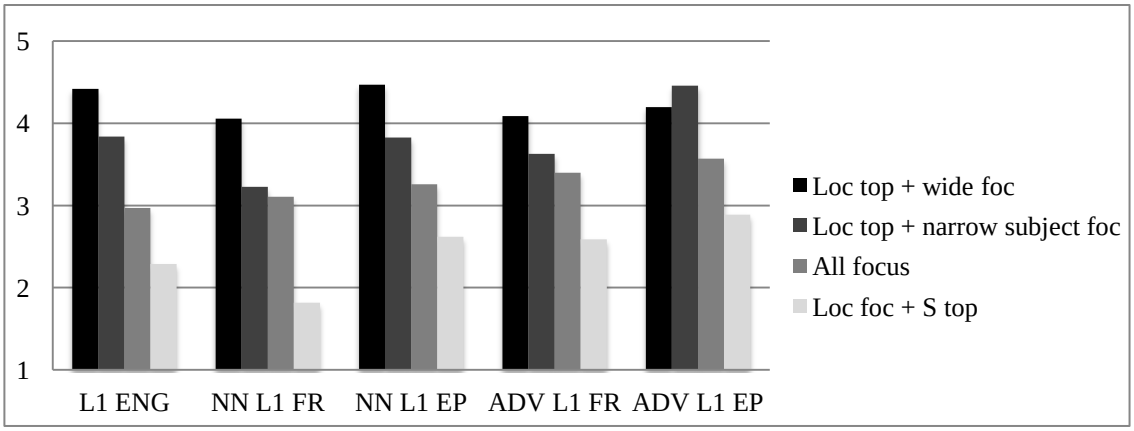

Fig. 10.6. *Mean acceptance ratings in the speeded acceptability judgement task 2 (scale 1-5)*

		Loc top + narrow foc on S vs. All focus	***Loc top + narrow foc on S vs. Loc foc + top S***	***Loc top + wide foc vs. All focus***	***Loc top + wide foc vs. Loc foc + top S***
L1 ENG	Estimate	0.8733	1.5467	1.4267	2.1000
	SE	0.1874	0.1718	0.2202	0.2245
	t	4.66[a]	9.001[a]	6.478[a]	9.355[a]
NN L1 FR	Estimate	-0.1212	1.4091	0.9545	1.8485
	SE	0.3214	0.2672	0.3748	0.3364
	t	-0.377	5.274[a]	2.547[a]	5.495[a]
NN L1 EP	Estimate	0.5758	1.2121	1.2121	2.2424
	SE	0.3823	0.3402	0.4020	0.2853
	t	1.506	3.563[a]	3.015[a]	7.86[a]
ADV L1 FR	Estimate	0.2333	1.0444	0.6889	1.5000
	SE	0.3302	0.2974	0.3894	0.3493
	t	0.707	3.512[a]	1.769[b]	4.294[a]
ADV L1 EP	Estimate	0.8333	1.5196	0.6078	1.2941
	SE	0.3520	0.3622	0.3396	0.3211
	t	2.367[a]	4.196[a]	1.69[b]	4.03[a]

Legend: [a]=statistically significant [b]= nearly statistical[202]

Table 10.9. *Within-groups comparisons of the results of the speeded acceptability judgement task 2 (statistical model: linear mixed effects)*

The analysis of individual results confirmed that, as group results suggested, all L2 groups exhibited optionality in this speeded acceptabibility judgement task. As shown in fig. 10.7, within all groups, there was a high percentage of L2ers who had median ratings above 3 across all the conditions where the subject is interpreted as part

[202] To determine whether a *t*-value between 2.00 and 1.00 was marginally significant, I estimated *p* values from the *t* distribution as follows (from Baayen, 2008: 248): 2 * (1 - pt(abs(X), Y - Z))
Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. This formula estimated the following *p*-values:
(i) NN L1 EP *t*=1.506 corresponds to *p*=0.1338298
(ii) ADV L1 FR *t*=1.769 corresponds to *p*=0.07859686
(iii) ADV L1 EP *t*=1.69 corresponds to *p*=0.09256298

of the focus (i.e., in the conditions *locative topic + wide focus*, *locative topic + narrow focus on the subject* and *all focus*). In the groups of French speakers, this pattern of behaviour was exhibited by 60% of the advanced L2ers and 45% of the near-natives. In the groups of EP speakers, the percentages of L2ers with median ratings above 3 across conditions was even higher: 71% in the advanced group and 64% in the near-native group. In contrast, in the monolingual group, only 16% of the participants displayed this pattern of behaviour. Crucially, mixed logit models indicate that the difference between L1 and L2 speakers in this respect is statistically significant in all but one case – that of French near-natives (L1 ENG vs. ADV L1 FR: estimate=2.0637, SE=1.0250 p=0.00725; L1 ENG vs. ADV L1 EP: estimate=2.5337, SE=0.7622, $p \leq 0.001$; L1 ENG vs. NN L1 EP: estimate=2.2178, SE=0.8309, p=0.00761). Nonetheless, the difference between this group and the English monolinguals is nearly significant (estimate=1.4759, SE=0.8153, p=0.0703).

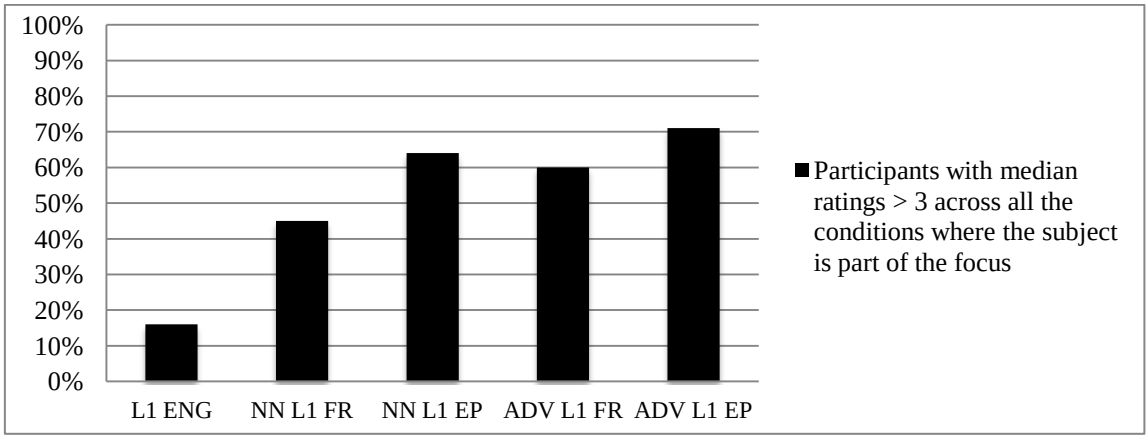

Fig. 10.7. *% of participants with median ratings > 3 across all the conditions where the subject is part of the focus in the speeded acceptability judgement task 2*

Together, individual and group results, therefore, indicate that, when a task is taxing on processing resources, all groups of L2ers tend to accept locative inversion according to the [+focus] status of the subject and often ignore the discourse status of the locative PP, which is a factor that English monolinguals take into account. For this reason, all the L2 groups tested in this study exhibited (though to varying degrees) optionality between all-focus contexts, which are typically incompatible with locative inversion, and the contexts where locative inversion is felicitous.

To sum up, in the present study, all groups of L2ers exhibited optionality regarding the types of verbs and discourse contexts compatible with locative inversion in at least one task. As table 10.10 shows, they displayed this type of non-target

behaviour mostly in the tasks that imposed higher demands on their processing resources, i.e., the tasks with time pressure. Given that the group of monolingual speakers of English distinguished the conditions which allow locative inversion from those which disallow it across all tasks, regardless of their cognitive load, it can be concluded that the variability observed in L2ers' performance was not caused by the methodological options made in the present work, but rather by real permanent differences between L2 and (monolingual) L1 speakers of English.

Variable	*Task*	*Near-native L2ers*		*Advanced L2ers*	
		L1 FR	**L1 EP**	**L1 FR**	**L1 EP**
Type of intransitive verb	Drag & drop task 1	NN	NN	NN	NN
	Priming task	NN	*	*	*
	Speeded acceptability judgement task 1	*	*	*	*
Type of discourse context	Drag & drop task 2	NN	*	*	NN
	Speeded acceptability judgement task 2	*	*	*	*

LLegend: NN=near-native performance *=optionality or indeterminacy

Table 10.10. *Summary of the results per task and L2 group*

10.6. Discussion

Taken together, the results of the present study disconfirm the LIH and support the predictions of the IH about the end state of L2 acquisition at the syntax-discourse interface. On the one hand, the fact that all groups of near-native and advanced L2ers exhibited optionality regarding the types of verbs and discourse contexts compatible with locative inversion indicates that, as predicted by the IH (contra the LIH), the syntax-discourse interface is a locus of permanent optionality in L2 acquisition, even when the L1 and the L2 are similar in the relevant respects. On the other hand, the fact that L1-L2 similarities did not prevent optionality at the syntax-discourse interface, together with the fact that near-native and advanced L2ers displayed optionality almost only in the tasks that were taxing on processing resources suggest that this non-target behaviour is primarily caused by processing inefficiencies associated with bilingualism rather than by representational deficits, just as predicted by the IH.

Note that, as locative inversion, in general, and the properties tested in this study, in particular, are not typically taught in English courses, the L2ers who took part in the study were unlikely to possess explicit knowledge about them. Consequently, their tendency to behave near native-like in untimed tasks and non-target-like in speeded tasks could not have resulted from the fact that the former tasks gave them more time to access explicit knowledge than the latter. The most plausible explanation for those differences is that they were a consequence of the following facts: speeded tasks are typically more taxing on participants' cognitive resources than untimed tasks, and, as Sorace (2011c, 2016) proposes, L2ers may not be consistently successful at integrating discourse and syntactic information in real-time processing – which is a costly operation – depending on the cognitive resources they can recruit at any one time. Probably, L2ers tended to display a near-native behaviour in untimed tasks, because they had few or no representational problems with respect to English locative inversion, and generally had sufficient cognitive resources at their disposal to efficiently coordinate syntactic and discourse information in these tasks. In contrast, in speeded tasks, the extra burden that time pressure put on their finite cognitive resources may have overloaded the processor, leading to inefficiencies in the online integration of syntactic and discourse information and, subsequently, to optionality in linguistic performance.

Although L2ers, in general, tended to perform non-native-like only in speeded tasks, there were two groups of L2ers who exhibited problems in the untimed drag-and-drop task which focused on the variable "type of discourse context": the group of Portuguese near-natives and the group of advanced French L2ers of English. There seem to be two possible – but not mutually exclusive – causes for their problems in this task: (i) representational deficits and/or (ii) inefficiencies in discourse tracking and in the integration of discourse and syntactic information in real-time processing. As will be explained in more detail below, information tracking and integration may be more costly in the tasks that focus on the variable "type of discourse context" than in the ones that concentrate on the "type of verb", because, to decide whether or not locative inversion is acceptable in a given discourse context, speakers have to process pieces of contextual information which are simultaneously more distant and larger in number than the ones they need to consider in order to determine whether a given verb can undergo this type of inversion. We may hypothesise that, when L2ers have to process a large

amount of discourse information in an inter-sentential context and this factor combines with other factors that also place extra burden on processing, such as having an L1 which is different from the L2 in the relevant respects and/or having a non near-native level of proficiency (for details on why these factors may increase processing cost, cf. the discussion below), processing load may be so high that it may cause inefficiencies (and, consequently, optionality) at the syntax-discourse interface even in the cases where the task does not involve time pressure and the L2er's linguistic representations are unimpaired. Note that, though the drag-and-drop tasks used in this study were untimed, participants could not spend a long time on each item, because they had to do several tasks in each experimental session and each task had a large number of items. So it is not unreasonable to hypothesise that a very high processing load can be the (main) cause of the problems observed in these untimed tasks.

At this point, there is not sufficient evidence to determine which (if any) of the explanations presented above is correct. Nevertheless, I tentatively propose that the optionality detected in the drag-and-drop task 2 is more likely to result from processing factors than from representational deficits. After all, if the input to which French and EP speakers were exposed throughout the acquisition process was sufficient for them to develop target-like representations of the distribution of verbs in locative inversion − which, in the case of EP speakers, is an area of difference between the L1 and the L2 −, then why would it be insufficient for them to develop target-like knowledge of the discourse contexts in which locative inversion is felicitous – which are the same in English, French and EP and, hence, something that, in the particular case of EP speakers, should be much easier to acquire than the distribution of verbs?

The hypothesis that these L2ers' problems are primarily situated at the level of processing raises a question that is worth examining: why is it that no differences were found between the untimed and speeded tasks? As time pressure imposes extra load on processing resources, we would expect Portuguese near-natives and advanced French L2ers to perform worse in the speeded task than in the untimed task. In an attempt to explain why this does not happen, I tentatively propose that there might be a limit to the processing load L2ers can handle efficiently and that the combination of a large quantity of distant discourse information to be processed with another source of processing burden, like L1-L2 dissimilarity, may suffice to surpass that limit and lead to processing inefficiencies. For this reason, the addition of an extra burden in the form of time

pressure may not make any difference. (For a more detailed discussion of the idea that there may be a limit to the processing load L2ers can handle efficiently, see chapter 11, section 11.7).

No matter the account we assume for the patterns of non-target behaviour in the drag-and-drop task 2, there is a fact that seems to escape explanation: the fact that the EP speakers who had a near-native level of proficiency in English performed worse than those who had an advanced level of proficiency. This behaviour is unexpected, but does not seem to be caused by problems in the assessment of these L2ers' proficiency, since the exact same groups presented differences in the expected direction in the study reported in chapter 9 (and in the study which will be presented in chapter 11). Uncontrolled factors such as the speed with which participants carried out the task may have been at the root of EP speakers' unexpected results in the drag-and-drop task 2. This is an issue that requires further investigation.

Despite the problems just mentioned, it can be concluded on the basis of the results obtained in the present study that, generally speaking, the more taxing a task is, the less efficient L2ers tend to be in the integration of syntactic and discourse information and the more likely they are to exhibit optionality. Support for this generalisation comes from the fact that all groups displayed optionality in at least one speeded task per experimental variable and the fact that this pattern of non-target behaviour only emerged in untimed tasks in two exceptional cases.

The processing load of the task is not the sole factor that influences L2ers' efficiency in the integration of syntactic and contextual information in real-time language use. The results obtained in this work suggest that there are, at least, three additional factors which influence L2ers' success at the syntax-discourse interface. As briefly noted above, the *quantity and/or distance of the contextual information the speaker needs to process* is one of them. It appears that the greater the quantity and/or the distance of the relevant pieces of contextual information, the less efficient L2ers tend to be in the integration of syntactic and contextual information. Two pieces of evidence support this claim: (i) the fact that L2ers exhibited slightly more optionality in the speeded acceptability judgement task which tested the types of contexts compatible with locative inversion than in the one which tested the variable "type of verb" (as evidenced by the fact that, in the former task, optionality only surfaced in individual results, while, in the latter, it was present both in group and individual results); and (ii)

the fact some L2 groups exhibited optionality in the drag-and-drop task on the variable "type of discourse context", but none of them displayed difficulties in the drag-and-drop task that focused on the variable "type of verb".

Note that, to decide whether a verb is acceptable in locative inversion, the speaker only needs to consider the meaning of the verb in the intra-sentential context where it occurs (e.g., the verb *swim* is acceptable with a subject whose referent prototypically swims like "a goldfish", but not with a subject like "a student"). In contrast, to decide whether a discourse context is compatible with locative inversion, the speaker always has to take into account the inter-sentential context in which the structure occurs to determine whether, in that particular context, the locative has a topic status and the subject is part of the focus. Hence, to decide whether locative inversion is felicitous in a given discourse context, the speaker has to process pieces of contextual information which are simultaneously more distant and larger in number than the ones he/she needs to consider to determine whether a given verb can undergo this type of inversion. Due to the distance of the relevant discourse information or to its quantity or even to both factors,[203] the processing cost of tracking and integrating discourse information with syntactic information may be higher in the tasks that focus on the variable "type of discourse" than in the ones that concentrate on the variable "type of verb". [204] Logically, the more costly the operations of discourse tracking and integration are, the more likely they are to exceed L2ers' available cognitive resources and cause processing inefficiencies at the syntax-discourse interface, which will ultimately result in optionality in linguistic performance.[205]

The *level of proficiency in the L2* seems to be another factor that influences L2ers' performance at the syntax-discourse interface. The fact that, in the present study,

[203] It is impossible to tease these factors apart on the basis of the data we collected.

[204]In the tasks that focused on the type of verb, all items and fillers were preceded by a context that induced a topical interpretation of the locative and a focal interpretation of the subject. By keeping the type of discourse context constant, we may have reduced the processing load of discourse tracking in this task. Probably, after a few items, participants noticed that all the contexts provided were compatible with locative inversion, which might have led them to stop using (many) attentional resources to determine whether or not inversion was felicitous in the context in which it occurred.

[205]The fact that L2ers were able to consistently reject locative inversion in the context *locative focus+ topical subject* does not contradict this proposal. Given that, in the items which tested this context, the subject always included a pronoun (e.g., *On BBC News appeared some of* ***them***), the participant could infer that the subject was more presupposed than the locative, even without taking into account the previous context. In the other contexts, in contrast, he/she had to consider the preceding context to determine the discourse status of the subject and the locative and, then, assess the (in)felicity of locative inversion.

advanced L2ers tended to exhibit optionality in more tasks than near-natives[206] suggests that the less proficient L2ers are, the less likely they are to be consistently efficient at integrating syntactic and discourse information.[207] If we assume with Sorace (2011c, 2016) that the integration of syntactic and discourse information (in part) draws on the same pool of cognitive resources used to inhibit the L1, the difference between advanced and near-native L2ers may be, at least partly, explained as follows: the L1 is more dominant at an advanced level than at a near-native level and, consequently, requires more cognitive resources to be inhibited at the former proficiency level. As a result, advanced L2ers may have fewer resources at their disposal to integrate syntactic and discourse information than near-natives, which, in turn, leads them to be less efficient in this process and display more optionality. Besides the cognitive cost of L1 inhibition, there is another factor that could be at the root of the differences between advanced and near-native speakers: "practice", i.e., continuous exposure to input and continuous active use of the L2. The groups of advanced L2ers tested in this thesis might have had less practice in the L2 than the groups of near-natives, as they lived for shorter periods of time in English-speaking countries than the near-natives (cf. chapter 8). As Sorace (2005:74) points out, "it is possible that quantitatively reduced input may determine a drastic decrease in the number of opportunities for coordinating different information types in communication, and may therefore result in an efficiency loss for these processing abilities".

Finally, there is another factor associated with L2ers' linguistic profile which appears to influence their performance at the syntax-discourse interface – the *(dis)similarity between the L1 and the L2.*[208] By showing that the groups of EP speakers exhibit optionality regarding locative inversion in more tasks than the groups of French

[206] In the tasks where advanced and near-native L2ers had an optional or indeterminate performance, no significant differences were found between them in terms of the degree of optionality exhibited. Between-groups analyses of the relevant data yielded *p*s >0.1.

[207] As previously noted, the behaviour of the speakers of L2 English−L1 EP in the drag-and-drop task that focused on the variable "type of discourse context" is an exception to this rule, which seems to escape explanation. As described in section 10.5.2, in this task, the advanced group behaved near native-like while the near-native group performed non-target-like. Chance or uncontrolled factors such as the speed with which participants carried out the task or their degree of familiarity with the drag-and-drop mechanism may be at the root of these unexpected results.

[208] This finding does not contradict the IH. As explained in chapter 7, under the IH, some level of residual optionality is expected for syntax–discourse properties regardless of L1–L2 pairings, but the co-occurrence of L1 influence is not precluded.

speakers,[209] the results of the present study suggest that highly advanced L2ers are less efficient at integrating syntactic and discourse information when the L1 and the L2 are different than when these languages are similar. One possible explanation for this fact is the following: when a structure has different properties in the L2 and the L1, the inhibition of the L1 structure may require more cognitive resources and, consequently, reduce the number of resources available for other linguistic operations. For this reason, the burden imposed by the online integration of syntactic and discourse information may exceed the available resources and give rise to processing inefficiencies and optionality. Another possible explanation for the L1 effect observed in this study is that L2ers tend to develop target-like knowledge of an L2 structure later when that structure has different properties in the L1 than when their L1 gives them an acquisition advantage. The more recent linguistic knowledge is, the less automatized it is likely to be and, consequently, the more time and attentional resources L2ers are likely to need to access it in real-time language use.[210] If grammatical knowledge is less automatically accessed in processing, the coordination of syntactic and discourse information may be computationally more costly and, hence, more vulnerable to inefficiencies. Notice that, unlike the LIH, the hypotheses raised here do not predict that, when the L1 and the L2 are similar, advanced and near-native L2ers will behave target-like at the syntax-discourse interface. Rather, these hypotheses predict that, in this case, speakers will experience fewer difficulties in integrating syntactic and contextual information and that, as a result, they will exhibit less optionality.

While L2ers' behaviour in the present study varied according to their L1, the level of proficiency, the quantity of contextual information to be processed and the processing load of the task, L1 speakers' performance was not affected by any of these factors. As described in section 10.5, unlike advanced and near-native L2ers, L1 speakers behaved alike across all tasks, even when they had to rapidly track many pieces of discourse information and integrate them with syntactic information. This finding suggests that advanced and near-native L2ers are considerably more sensitive to cognitive load than monolingual L1 speakers. As the IH (Sorace, 2011c, 2016)

[209] In the tasks where EP and French L2ers had an optional or indeterminate performance, no significant differences were found between them in terms of the degree of optionality exhibited. Between-groups analyses of the relevant data yielded *p*s >0.1.

[210] Here I assume with DeKeyser and colleagues (DeKeyser, 2001, 2009, 2015; DeKeyser & Criado-Sánchez, 2012) that "automaticity is not an all-or-nothing affair" (DeKeyser, 2015: 96) and that the more automatized linguistic knowledge is, the faster it can be accessed, the fewer attentional resources its use requires and the less error-prone it is.

proposes, this is probably because, like all the speakers who have two languages permanently active in their mind, very advanced L2ers need to constantly inhibit one language when using the other, which is consuming in terms of cognitive resources and reduces the number of resources available to be recruited for other tasks. In other words, L2ers' performance at the syntax-discourse can never be completely monolingual-like due to the cognitive consequences of bilingualism.

To close this discussion, it is important to note that, when taken together, the results presented so far in this thesis indicate that L2ers and monolingual L1 speakers are not permanently different across all linguistic domains. If they were, one would not expect the groups of near-natives who took part in this study to perform native-like in the speeded acceptability judgement tasks discussed in chapter 9, which tested "narrow" syntactic properties. The fact that these near-natives did behave target-like in those tasks, whose design was similar to that of the tasks which were used for testing locative inversion, indicates that L2ers and monolingual L1 speakers are permanently different only in some domains. As the IH predicts and the results of the studies presented in chapter 9 and in this chapter confirm, the syntax-discourse interface is one of those domains, but "narrow" syntax is not. The most plausible explanation for this fact is that the mapping between grammatical and extra-grammatical information that happens at the syntax–discourse interface is much more consuming in terms of cognitive resources than pure syntactic computations. Due to the high processing cost of syntax-discourse mappings, inefficiencies in the processing and use of syntax-discourse structures are to be expected in populations that are more sensitive to cognitive load, such as L2ers.

10.7. Summary

In sum, the present study on the acquisition of locative inversion in advanced and near-native English shows that the syntax-discourse interface is necessarily a locus of permanent optionality in L2 acquisition, even when the L1 is similar to the L2, just as predicted by the IH (and contra the LIH). Its results are, moreover, consistent with the view that the optionality found at the syntax-discourse interface is primarily caused by processing inefficiencies associated with bilingualism. In addition to presenting new experimental evidence in favour of the IH, this work reveals that the phenomenon known as "residual optionality" is gradient, i.e., there seems to be a scale of optionality that goes from weak (and rarely observable) to strong (and frequently observable). The results obtained in the study suggest that the level of optionality exhibited by L2ers

varies according to, at least, three interacting factors, which have not been (sufficiently) considered in the IH-related literature: (i) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → less efficiency in the integration of discourse and syntactic information in real-time processing → more optionality), (ii) the level of proficiency in the L2 (lower level of proficiency → less efficiency in the integration of discourse and syntactic information in real-time processing → more optionality), and (iii) the similarity between the L1 and the L2 (L1≠L2 → less efficiency in the integration of discourse and syntactic information in real-time processing → more optionality). Given that L2ers exhibit varying degrees of optionality at the syntax-discourse interface, in certain cases, untimed offline tasks can capture their optionality, but, in other cases, only the tasks that give insights about processing abilities are able to detect it. The gradience of optionality will be discussed in more detail in the next chapter.

Chapter 11

Presentational *there*-constructions in advanced and near-native English

11.1. Introduction

In order to further test the IH and the LIH, the present chapter investigates the end state of the acquisition of light *there*-constructions[211] with verbs other than *be* (hereafter, presentational *there*-constructions[212]) in L1 EP – L2 English and L1 French – L2 English. This is a particularly appropriate testing ground for the IH and the LIH for four reasons. The first is that presentational *there*-constructions are a type of SVI that involves the syntax-discourse interface: it is only admitted in English when it gets an all-focus, thetic interpretation, and occurs with a verb that is simultaneously unaccusative(-like) and compatible with the presentational function of this construction, such as an unaccusative verb of existence and appearance or a redundant unergative verb[213] (cf. chapter 4). The second reason is that this type of expletive-associate inversion is subject to similar conditions in English and French (cf. chap. 5), but does not exist in NSLs like EP. As explained in chapter 6, this language expresses theticity by means of the order VS(XP), which involves a covert expletive in Spec, IP and is admitted with all types of intransitive verbs. The third reason is that *there*-constructions have properties which are only governed by internal interfaces, such as the lexicon-syntax interface. For example, it is the mapping system between lexicon and syntax that decides the grammaticality of the expletive *there* and the ungrammaticality of the

[211] Recall that, as described in chapter 4, English has two structurally-distinct types of *there*-constructions: (i) light *there*-constructions, i.e., constructions with a light subject which is base-generated in the object position of the VP and stays *in situ*, and (ii) heavy *there*-constructions, i.e., constructions with a structurally (very) heavy subject which is heavy-DP shifted to a right-adjoined position. The present study focuses exclusively on the former.

[212] Recall that, in the literature, the *there*-constructions which occur with the verb *be* are usually called "existential *there*-constructions", whereas those which take verbs other than *be* are termed "presentational *there*-constructions".

[213] Note that, as explained in chapter 4, "redundant unergatives" do not violate the unaccusative constraint, because they are not "true" unergatives. In English, unergative verbs oscillate between unergative and unaccusative behaviour according to pragmatic factors such as their predictability and noteworthiness in relation to the subject. When unergative verbs are pragmatically unpredictable and noteworthy, they exhibit an unergative behaviour. Conversely, when these verbs are pragmatically predictable and unnoteworthy in relation to the subject, they adopt an unaccusative behaviour at the level of syntax and semantics. This is what happens in the case of redundant unergatives.

expletive *it* in this syntactic configuration. The last and most important reason for using presentational *there*-constructions for testing the IH and the LIH is that this construction is very rare in English (Biber et al., 1999; Haegeman & Guéron, 1999) and far less common than locative inversion (Biber et al., 1999: 954-955).[214] For this reason, by comparing L2ers' performance with respect to presentational *there*-constructions with their results with respect to locative inversion, which is a closely related SVI structure (cf. chapter 4), one may examine whether and how construction frequency affects ultimate attainment in L2 acquisition.

The present chapter is organised as follows: section 11.2 presents the research questions of the study into the acquisition of presentational *there*-constructions in advanced and near-native English and lists the predictions of the IH and the LIH about those questions. In section 11.3, I describe the experimental design of the study. Section 11.4 details how data were statistically analysed. In section 11.5, I report the results of the study. Section 11.6 discusses these results and compares them to the ones obtained in the study on locative inversion. In section 11.7, I summarise and discuss the results of all the studies on the L2 acquisition of pre- and post-verbal subjects reported in this thesis. Finally, the conclusions of this discussion are summarised in section 11.8.

11.2. Research questions and predictions

The study on the acquisition of presentational *there*-constructions in L2 English investigated the following questions:

i. Do near-native and/or advanced L2ers of English exhibit optionality with respect to the discourse-conditioned properties of presentational *there*-constructions, namely (a) the lexicon-syntax-discourse conditions which govern the distribution of intransitive verbs, and (b) the discourse conditions under which this type of SVI is felicitous?

[214] In a survey of the British National Corpus by Biber et al. (1999), the vast majority of *there*-constructions contained a form of the verb *be* (around 95%). In contrast, locative inversion occurred about half the time with verbs other than *be*.

ii. Do near-native and/or advanced L2ers of English display difficulties with respect to a purely lexical-syntactic property like the type of expletive admitted in presentational *there*-constructions[215]?

iii. If advanced and/or near-native L2ers exhibit difficulties at the syntax-discourse interface with respect to presentational *there*-constructions, are they an effect of bilingual processing and/or of other factors, such as L1 influence?

As shown in table 11.1, the IH and the LIH make different predictions about these research questions.

Questions	***IH***	***LIH***
I	EP and French speakers of English will display some level of optionality with respect to all the discourse-conditioned properties of *there*-constructions at advanced and near-native levels, even when their underlying linguistic representations are native-like.	French L2ers of English will behave native-like, particularly at a near-native level, while advanced and near-native EP speakers of English will display divergence with respect to the discourse-conditioned properties of *there*-constructions because they are different in the L1 (all intransitive verbs are admitted in VS(XP) orders, and these orders are not restricted to all-focus contexts – cf. chapter 6).
Ii	The lexical-syntactic properties of *there*-constructions will be completely unproblematic for near-native speakers, regardless of whether their L1 is similar to or different from the L2. However, the possibility of developmental problems at an advanced level is not ruled out.	N/A (The LIH has been proposed to explain the patterns of deviant behaviour found at the syntax-discourse interface and has not been extended to other domains. For this reason, it does not make predictions about the lexicon-syntax interface.)
iii	Even if advanced and near-natives L2ers' linguistic representations are target-like, they will be inefficient in the integration of (lexical-)syntactic and discourse information in real time as a by-product of bilingualism. For this reason, all L2ers will exhibit problems, regardless of whether their L1 is similar to or different from the L2.	Advanced and near-native L2ers' problems will be caused by the negative influence of their L1 on their L2 representations and the fact that presentational *there*-constructions are very infrequent in English.

Table 11.1. *Predictions of the IH and the LIH about our research questions*

[215] English syntax requires expletives to be overt, but it is the mapping system between lexicon and syntax that decides the syntactic behaviour of each overt expletive available in the mental lexicon.

11.3. Experimental design

The L2 and L1 speakers of English who took part in this study were the same who participated in the experiments reported in chapters 9 and 10 (for a description of their profiles, cf. chapter 8, section 8.3). In the present study, these speakers were administered a battery of tasks which tested the following variables: (i) the *types of overt expletives* admitted in expletive-associate inversion (*it vs. there*); (ii) the *types of intransitive verbs* allowed in this construction (unaccusatives of existence and appearance *vs.* unaccusatives of change of state *vs.* redundant unergatives *vs.* non-redundant unergatives); and (iii) the *types of discourse contexts* where the construction is felicitous (sentence focus *vs.* narrow subject focus *vs.* subject topic+predicate focus).

The variables "type of overt expletive" and "type of discourse context" were tested through speeded acceptability judgement tasks and drag-and-drop tasks. The variable "type of intransitive verb", on the other hand, was tested by means of a speeded acceptability judgement task, a syntactic priming task and a drag-and-drop task (for details on the design of these tasks, cf. chapter 8, section 8.4). All drag-and-drop tasks included two types of blocks of words: a set of blocks which had to be obligatorily used – subject, verb and locative PP – and two optional blocks – one with the expletive *there* and the other with *it*.[216] The drag-and-drop task that focused on the variable "type of intransitive verb" simultaneously tested the variable "type of expletive". The only task that was designed with the exclusive purpose of testing the expletives admitted in the subject position of SVI structures was a speeded acceptability judgement task. This task tested the expletive *it,* but not the expletive *there.* This is because the speeded acceptability judgement task on the variable "type of verb" provided us with sufficient and comparable data to analyse L2ers' behaviour regarding *there* and *it* in VS structures.

As shown in table 11.2, all experimental tasks included 6 items per condition and as many fillers as experimental items. The latter items were composed of a verb in the simple past (cf. the list of verbs in table 11.3[217]), an indefinite subject with 3 to 4

[216] The drag-and-drop task that focused on the discourse contexts with which *there*-constructions are compatible simultaneously collected data about the discourse contexts where L2ers produced locative inversion.

[217] These verbs were selected on the basis of the lists of verbs attested in English *there*-constructions published by Levin (1993: 88-90).

words[218] (except in the priming task, where it had 2) and a 3-word locative PP, which was indefinite in all items, except in the ones that tested the acceptability of *there*-constructions in narrow and predicate focus contexts. In the tasks which tested the variable "type of discourse context", experimental items always included unaccusative verbs of existence and appearance, as this is the subclass of verbs that occurs more readily in this type of construction. In the tasks which focused on the variable "type of verb", presentational *there*-constructions were preceded by a question which forced an all-focus interpretation of the sentence, as well as by one of the following scene-setting expressions: "it was dark and…" or "during the night". These expressions were added after pilot tests revealed that English native speakers accepted more *there*-constructions in the presence of these elements, particularly in the case of redundant unergatives. Finally, in the tasks which tested the acceptability of the expletive *it* as the subject of expletive-associate inversion, the verb always belonged to the class of unaccusatives of existence and appearance and the inversion structure was preceded by the same question and scene-setting expressions used in the experiments on the variable "type of verb". Sample test sentences are presented in table 11.4 (for the complete tests, cf. Appendix G).

Task	***Items***		
	Experimental items	**Fillers**	**Total**
Speeded acceptability judgement task on the expletive *it*	6	6	12
Each task on the type of verb	24	24	48
Each task on the type of discourse context	12	12	24[219]

Table 11.2. *Number of items per task*

[218] All 4-word subjects included the expression *a lot of*.

[219] In the tasks which focused on the variable "type of intransitive verb", *there*-constructions were always preceded by contexts which forced an all-focus interpretation of those constructions. For this reason, to reduce the number of items in the experiments on the type of discourse context, I decided to test sentence focus contexts only through the experiments on the type of verb.

Type of verb	*Verbs used*
Unaccusative verbs of existence and appearance	*appear*, *arrive*, *come*, *emerge*, *enter* and *occur*
Externally-caused unaccusative verbs of change of state	*break*, *burn*, *defrost*, *explode*, *melt* and *smash*[220]
Redundant unergative verbs	*fly* (with birds), *flutter* (with flag), *glitter* (with diamond or ring), *swim* (with fish), *tick* (with clock) and *wave* (with flag)
Non-redundant unergatives	*cough*, *scream*, *shop*, *sneeze*, *talk* and *vomit*

Table 11.3. *Verbs used in the experimental items which tested presentational there-constructions*

Type of intransitive verb	*Type of discourse context*
Unaccusative of existence and appearance: A: Tell me what happened afterwards in the story.[221] B: During the night…there appeared a scary ghost near a tombstone.	*Narrow subject focus context:* A: Who came into the room? B: There came a little boy into the room.
Unaccusative of change of state:[222] A: Tell me what happened afterwards in the story. B: During the night…there broke a large window in a room.	*Predicate focus context:* A: Why is everybody talking about our 7th graders? What did they do? B: There appeared some of them on BBC News.
Redundant unergative: A: Tell me what happened afterwards in the story. B: It was dark and … there fluttered a white flag on a mast.	*Sentence focus context:* tested through the items which tested unaccusatives of existence and appearance in the tasks on the variable "type of intransitive verb"
Non-redundant unergative:[223] A: Tell me what happened afterwards in the story. B: It was dark and … there screamed an old man in a cave.	
Type of expletive subject	
There: = the items which tested unaccusatives of existence and appearance in the tasks on the variable "type of intransitive verb"	
It: A: Tell me what happened afterwards in the dream. B: During the night…it appeared a frightening ghost in a church.	

Table 11.4. *Sample test sentences per condition*

[220] In the syntactic priming task, I used the verb *dry* instead of *smash*.

[221] I used the all-focus question "tell me what happened afterwards in the story" to make it clear to the participant that this structure was being used in the context of storytelling, which is a context where presentational *there*-constructions are felicitous.

[222] In the items which tested unaccusative verbs of change of state, subjects were carefully chosen to block a presentational reading of the verb and force an external causation interpretation.

[223] Given that some French speakers admit expletive-associate inversion with non-redundant unergative verbs when the activity they express prototypically takes place in the location to which the locative PP refers, I avoided using locative PPs semantically related to the verb in the items which tested non-redundant unergatives.

The experimental tasks used in this study impose different demands on participants' cognitive resources. As explained in detail in chapter 8, while, in untimed drag-and-drop tasks, participants have some time to proceed to a complete reanalysis of the stimuli, reflect on their answers and modify them, in syntactic priming and speeded acceptability judgement tasks, the fast pace of the task puts extra load on their cognitive resources, which may lead to processing inefficiencies in populations and linguistic areas that are more sensitive to cognitive load. For this reason, as shown in chapter 10, the latter tasks can capture interface problems that untimed offline tasks fail to detect.

11.4. Data analysis

In this study, statistical analyses were conducted on R using two different types of mixed-effects models: (i) linear mixed-effects models for speeded acceptability judgement tasks and (ii) mixed logit models for drag-and-drop tasks and syntactic priming task. This is because these tasks had different types of dependent variables: a multinomial variable (more precisely, a 1-5 scale), in the case of the acceptability judgement tasks, and a binomial dependent variable (codified as EXPL VS=1 and no EXPL VS=0), in the case of the other tasks. In all statistical analyses, the variables "type of verb", "type of discourse context", "type of expletive" and (where appropriate) "group" were modelled as fixed effects and the variables "items" and "subjects" were modelled as random effects. Analyses included random intercepts for subjects and items, by-subject random slopes for within-subjects variables (i.e., the variable "discourse context" in the tasks on the type of discourse context, the variable "verb" in the tasks on the types of intransitive verbs, and the variable "expletive" in the tasks on the types of expletives), and by-item random slopes for group (in between-group analyses only) (for further details on data analysis, cf. chapter 8, section 8.5).

11.5. Results

In the present experimental study, L2ers tended to behave differently from the group of monolingual L1 speakers of English. As will be shown below, while L1 speakers were able to successfully identify the conditions under which expletive-associate inversion is (un)acceptable across all tasks, L2ers' success varied according to the type of interface tested and the type of task used.

11.5.1. *Experiments on the types of expletive subjects*

Let us first examine L2 and L1 speakers' performance with respect to the type of overt expletive allowed in expletive-associate inversion, which is a property at the lexicon-syntax interface. As fig. 11.1 illustrates, in the drag-and-drop task, all groups preferred *there* over *it* (L1 ENG: estimate=5.0799, SE=1.4783, $p<0.001$; NN L1 FR: estimate=4.7605, SE=0.8937, $p<0.001$; NN L1 EP: estimate=1.4602, SE=0.6617, $p=0.027331$; ADV L1 EP: estimate=3.005, SE=1.692, $p=0.0558$[224]), except for the group of advanced French L2ers of English, who did not make any distinction between these expletives (estimate=1.753, SE=3.726, $p=0.6380$). Despite exhibiting a preference for using *there* to fill the canonical subject position of VS structures, the group of advanced EP speakers of English produced a significantly higher percentage of inversion structures with the expletive *it* than the control group (estimate=5.3887, SE=1.6114, $p<0.001$). Crucially, such difference was not found in any of the comparisons between the control group and the other L2 groups (all $ps\geq0.22318$).

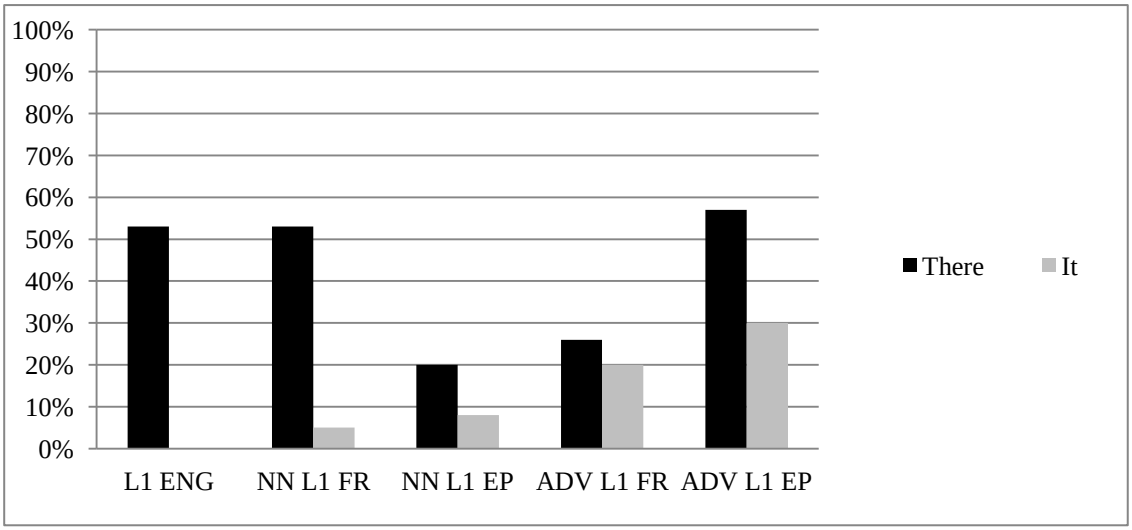

Fig. 11.1. *% of expletive-associate inversions produced with unaccusative verbs of existence and appearance in the drag-and-drop task 1*

Similar results were obtained in the speeded acceptability judgement task. As shown in fig. 11.2, in this task, all groups of advanced L2ers accepted SVI with *it* significantly more than the control group (ADV L1 FR: estimate=1.1644, SE=0.4050, $t=2.875$; ADV L1 EP: estimate=1.3122, SE=0.3377, $t=3.885$) and treated this expletive like *there* (within-group dif. between *it* and *there*: ADV L1 FR estimate=0.4222,

[224] This *p* value is nearly statistical.

SE=0.2860, *t*=1.476[225]; ADV L1 EP: estimate=0.4314, SE=0.4367, *t*=0.988). The only groups that performed native-like in this task were the near-native ones. They rejected SVI with the expletive *it* as much as the control group did (L1 ENG *vs.* NN L1 FR estimate=-0.3679, SE=0.3870, *t*=-0.951; L1 ENG *vs.* NN L1 EP estimate=0.3594, SE=0.3736, *t*=0.962) and accepted this type of word order significantly more when the canonical subject position was occupied by the expletive *there* than when this position was filled by *it* (NN L1 FR estimate=1.0152, SE=0.3447, *t*=2.945*;* NN L1 EP estimate=0.9697, SE=0.4034, *t*=2.404).

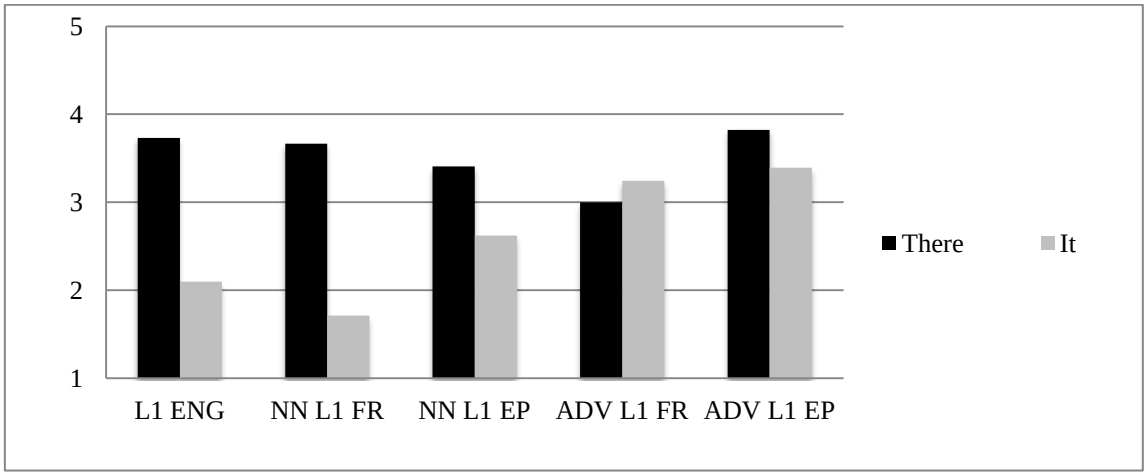

Fig. 11.2. *Mean acceptance ratings of expletive-associate inversion (with unaccusative verbs of existence and appearance) in the speeded acceptability judgement task 1 and 2 (scale 1-5)*

In short, in all the experimental tasks that tested the variable "type of expletive", the lexicon-syntax mappings which determine the grammaticality of *there* and the ungrammaticality of *it* in VS structures were a source of problems for advanced L2ers, but crucially not for near-natives.[226]

11.5.2. *Experiments on the types of intransitive verbs*

The experiments on the distribution of verbs in *there*-constructions − which is governed by lexical-syntactic and discourse conditions − yielded different results. The

[225] To determine whether this *t*-value was marginally significant, I estimated the *p* value from the *t* distribution as follows (from Baayen, 2008: 248): 2 * (1 - pt(abs(X), Y - Z))
Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. This formula estimated the following *p*-value: *p*=0.1417008.

[226] The only group of near-native speakers that exhibited a problem was the group of Portuguese near-natives. In the drag-and-drop task, they underproduced inversion with *there* (dif. between this group and the English controls: estimate=-4.216, SE=2.099, *p*=0.0445). Crucially, as there were no differences between this group and the English controls in the acceptability judgement task (estimate=-0.3242, SE=0.4433, *t*=-0.731), it seems that the low percentage of production of *there*-inversion does not reflect a low acceptance of this structure.

only group that was able to consistently differentiate the verbs that are admitted in these constructions (i.e., unaccusatives of existence and appearance and redundant unergatives) from the ones which are not (i.e., unaccusatives of change of state and non-redundant unergatives) was the group of monolingual speakers of English (drag-and-drop task: estimate=-1.2558, SE=0.3981, *p*=0.00161; syntactic priming task: estimate=-2.822, SE=1.532, *p*=0.0655; speeded acceptability judgement task: estimate-0.9367, SE=0.2091, *t*=-4.48). As will be shown below, L2ers' performance with respect to the distribution of verbs varied from task to task.

Let us first analyse L2ers' results in the drag-and-drop task.[227] As fig. 11.3 and table 11.5 show, in this task, only French near-natives were able to distinguish the verbs which are acceptable in *there*-constructions from the ones which are unacceptable (estimate=-1.6513, SE=0.6684, *p*=0.0135). The other groups of L2ers failed to consistently make this distinction (acceptable verbs *vs.* unacceptable verbs: NN L1 EP estimate=-1.984, SE=1.225, *p*=0.10532; ADV L1 FR estimate=-0.637, SE=1.184, *p*=0.59056; ADV L1 EP estimate=-0.6473, SE=0.7287, *p*=0.374 – for more fine-grained comparisons, cf. table 11.5).

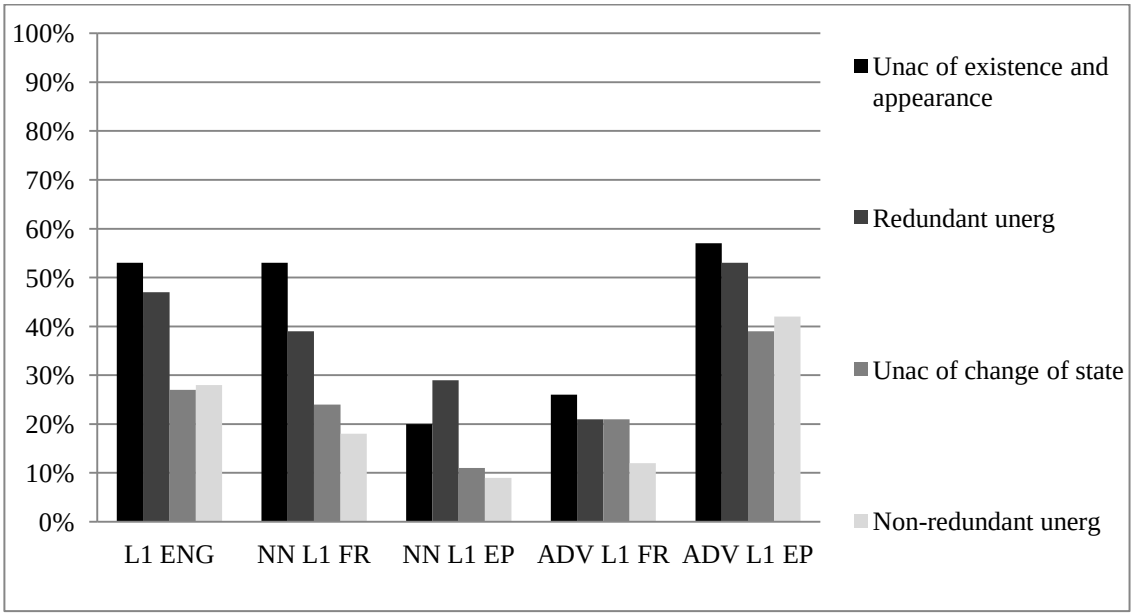

Fig. 11.3. *% of there-constructions produced in the drag-and-drop task 1 per type of verb*

[227] Here we only present participants' results regarding PP *there* VS and *There* VSPP orders, because the focus of the study is on *there*-constructions. It should, nevertheless, be noted that, in this drag-and-drop task, all groups of participants produced (PP)SV(PP) orders in 100% of the experimental items. They also produced some PPVS orders (L1 ENG=28%, NN L1 FR=25%, ADV L1 FR=23%, NN L1 EP=27%, ADV L1 EP=10%) and the *It* VSPP orders which are presented in fig. 11.1. The group of advanced EP speakers of English moreover produced sentences with the order VSPP in 2% of the items.

		Unac. of existence and appearance vs. unac. of change of state	*Redundant unerg. vs. non-redundant unerg.*	*Unac. of existence and appearance vs. non-redundant unerg.*	*Redundant unerg. vs. unac. of change of state*
L1 ENG	Estimate	2.5064	1.981	-1.5889	-1.7670
	SE	0.8797	1.083	0.8103	0.6742
	p	0.00438[a]	0.0674 [b]	0.0499[a]	0.00877[a]
NN L1 FR	Estimate	-1.8094	-2.904	-4.863	-0.8330
	SE	0.8194	1.509	2.452	0.5548
	p	0.0272[a]	0.0543 [b]	0.0473[a]	0.1333
NN L1 EP	Estimate	-1.416	0.120	-1.3175	0.3424
	SE	1.216	2.195	1.1333	2.0291
	p	0.24421	0.9564	0.24502	0.8660
ADV L1 FR	Estimate	-0.08967	4.284	-2.276	0.139
	SE	1.40767	3.746	2.403	1.318
	p	0.9492	0.2528	0.3435	0.91600
ADV L1 EP	Estimate	-1.2149	2.146	-2.5208	0.4148
	SE	0.8939	1.315	1.5444	1.1647
	p	0.174	0.103	0.103	0.722

Legend: [a]=statistically significant [b] = nearly statistical

Table 11.5. *Within-groups comparisons of the results of the drag-and-drop task 1 (statistical model: mixed logit)*

In the syntactic priming task, all groups produced very low percentages of *there*-constructions (<30%), including the control group.[228] Possibly, this is because the priming task required participants to orally produce sentences out of context, which is not a situation where presentational *there*-constructions would typically occur in English. As noted in chapter 4, this construction tends to be used in formal writing, particularly in fiction, and even in this register it is rather rare. For this reason, in the syntactic priming task, participants might have perceived the production of *there*-constructions as unnatural, which might have partially blocked the syntactic priming effect the task aimed to induce.

Crucially, despite producing low percentages of *there*-constructions, in this task, the group of English monolinguals made a marginal distinction between redundant unergatives and unaccusatives of existence and appearance, on the one hand, and non-redundant unergatives and change-of-state unaccusatives, on the other (estimate=-2.822, SE=1.532, *p*=0.0655). They were moreover able to clearly distinguish the subclass of verbs that occurs more readily in *there*-constructions – the class of unaccusative verbs of existence and appearance − from the other verbs tested (estimate=-2.366, SE=1.175, *p*=0.044). The groups of L2ers, in contrast, were unable to make these distinctions, even

[228] When participants did not use the order *there* VSPP, they produced either SVPP orders or PPVS orders. The latter word order was produced by each group in less than 5% of the items.

when they had a near-native proficiency level and their L1 was similar to the L2 (acceptable verbs *vs.* the other verbs: NN L1 FR estimate=-14.27, SE=20.11, *p*=0.478; NN L1 EP estimate=-1.884, SE=2.747, *p*=0.49284, ADV L1 FR estimate=1.474, SE=2.047, *p*=0.4714; ADV L1 EP estimate=1.670, SE=3.229, *p*=0.605; unaccusatives of existence and appearance *vs*. the other verbs: NN L1 FR estimate=-5.439, SE=6.897, *p*=0.4303; NN L1 EP estimate=1.598, SE=3.924, *p*=0.684; ADV L1 FR estimate=-0.4152, SE=2.1613, *p*=0.84765; ADV L1 EP estimate=8.484, SE=10.439, *p*=0.41638). As fig. 11.4 clearly illustrates, L2ers exhibited an indeterminate behaviour.[229]

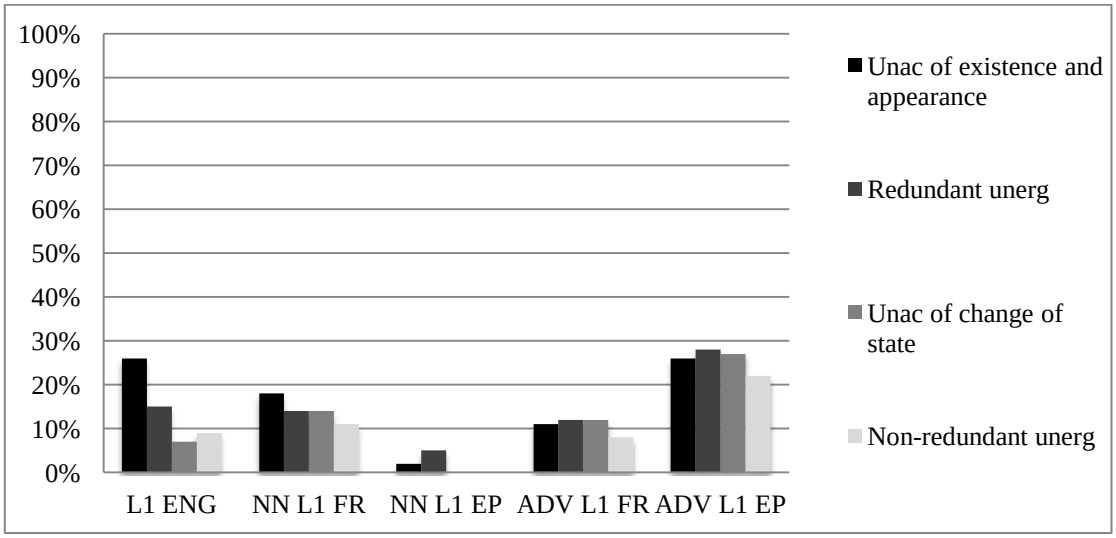

Fig. 11.4. *% of there-constructions produced in the syntactic priming task per type of verb*

Let us finally analyse the results of the speeded acceptability judgement task. As shown in fig. 11.5 and table 11.6, in this task, all L2 groups accepted *there*-constructions considerably more with redundant unergatives and unaccusatives of appearance than with the other verb classes tested, just as the English monolinguals did (acceptable *vs.* unacceptable verbs: NN L1 FR estimate=-0.5944, SE=0.1440, *t*=-4.128; ADV L1 FR estimate=-0.6288, SE=0.2137, *t*=-2.942; ADV L1 EP estimate=-0.7451, SE=0.2427, *t*=-3.07; NN L1 EP estimate=-0.5606, SE=0.2098, *t*=-2.672 – cf. table 11.6 for details).

[229] Recall that the performance of a group is indeterminate when (i) participants exhibit a low level of production/acceptance of a structure S across all conditions, including those where the control group allows this word order, and (ii) do not differentiate between the conditions which are compatible with S and those which are not. In contrast, the behaviour of a group is optional when (i) it displays a higher level of acceptance/production of a structure S than the control group, at least in the conditions which disfavour S, and (ii) does not make any statistically significant distinction between the conditions which are compatible with S and (some of) those which are not (cf. Lozano, 2008b)

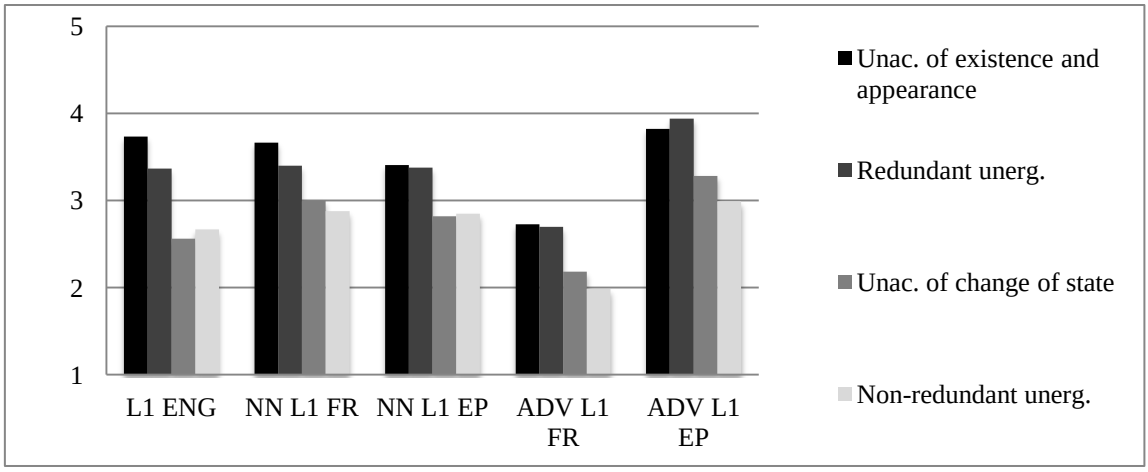

Fig. 11.5. *Mean acceptance ratings in the speeded acceptability judgement task 2 per type of verb (scale 1-5)*

		Unac. of existence and appearance vs. unac. of change of state	***Redundant unerg. vs. non-redundant unerg.***	***Unac. of existence and appearance vs. non-redundant unerg.***	***Redundant unerg. vs. unac. of change of state***
L1 ENG	Estimate	-1.1733	-0.7000	-1.0667	0.8000
	SE	0.3404	0.2442	0.3465	0.2179
	t	-3.447 [a]	-2.866 [a]	-3.079 [a]	3.672[a]
NN L1 FR	Estimate	-0.5455	-0.7121	-0.7424	0.5152
	SE	0.2343	0.3185	0.3377	0.2450
	t	-2.328 [a]	-2.236 [a]	-2.198 [a]	2.103[a]
NN L1 EP	Estimate	-0.5909	-0.5303	-0.5606	0.5606
	SE	0.3348	0.2606	0.3281	0.2557
	t	-1.765 [b]	-2.035 [a]	-1.708 [b]	2.193[a]
ADV L1 FR	Estimate	-0.6667	-0.5222	-0.7889	0.4000
	SE	0.1926	0.1818	0.2163	0.1799
	t	-3.462 [a]	-2.873 [a]	-3.647[a]	2.223[a]
ADV L1 EP	Estimate	-0.5392	-0.9510	-0.8333	-0.2941
	SE	0.3273	0.3456	0.4044	0.3990
	t	-1.655 [b]	-2.752 [a]	-2.061[a]	-0.737

Legend: [a]=statistically significant [b]= nearly statistical[230]

Table 11.6. *Within-groups comparisons of the results of the speeded acceptability judgement task 2 (statistical model: linear mixed effects)*

Nevertheless, individual results reveal that, contrary to what group results suggest, not all groups of L2ers performed native-like in this task. As shown in fig.

[230] To determine whether a *t*-value between 2.00 and 1.00 was marginally significant, I estimated *p* values from the *t* distribution as follows (from Baayen, 2008: 248): 2 * (1 - pt(abs(X), Y - Z))
Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. This formula estimated the following *p*-values:
(i) NN L1 EP *t*=-1.765 corresponds to *p*= 0.07989404 and *t*=-1.708 corresponds to *p*=0.09000496
(ii) ADV L1 EP *t*=-1.655 corresponds to *p*=0.09946969

11.6, within the advanced groups, more than 60% of the L2ers had median[231] ratings above or below 3 across all experimental conditions, which means that they accepted or rejected presentational *there*-constructions with all the verb classes that were tested. In the near native groups, the percentages of L2ers with median ratings above or below 3 across conditions were lower: 45% in the group of French near-natives and 54% in the group of Portuguese near-natives. Crucially, statistical comparisons between each L2 group and the English monolinguals indicate that the groups of near-natives performed monolingual-like (NN L1 FR*:* estimate=0.6937, SE=0.7086, *p*=0.328; NN L1 EP: estimate=0.9361, SE=0.7422, *p*=0.207), but the groups of advanced speakers did not (ADV L1 FR: estimate=1.4759, SE=0.8231, *p*=0.0730; ADV L1 EP: estimate=1.35991, SE=0.67931, *p*=0.0453).[232] In the light of this fact, the behaviour of the latter groups can be classed as optional.

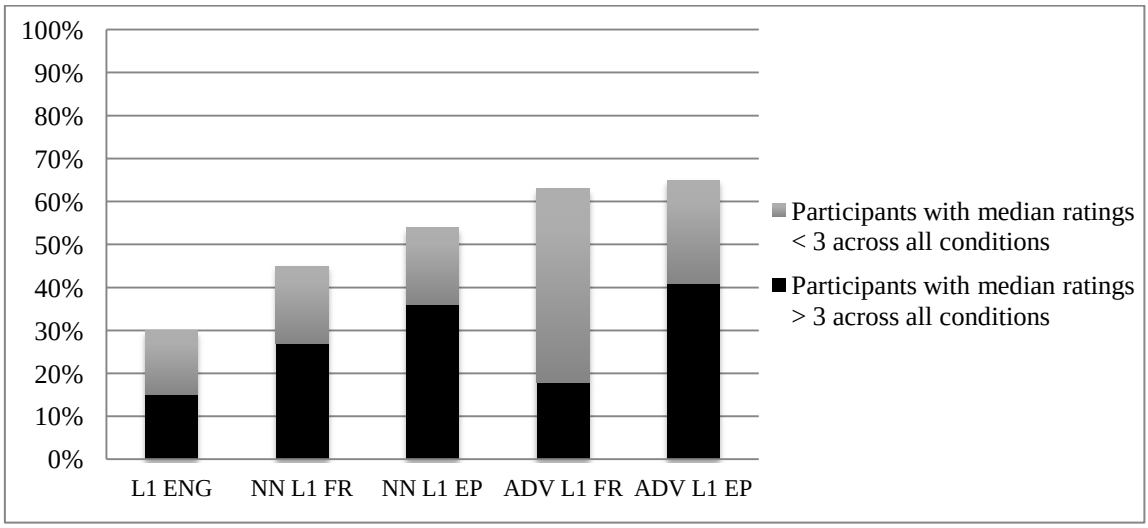

Fig. 11.6. *% of participants with median ratings > or < 3 across all the experimental conditions of the speeded acceptability judgement task 1*

In brief, while advanced L2ers performed non target-like across all tasks, near-natives' performance with respect to the distribution of verbs in *there*-constructions was variable. Near-natives only exhibited a non-target-like behaviour in the tasks that elicited language production. In the production task that was untimed, only the near-natives whose L1 was different from the L2 displayed problems. In contrast, in the production task that was timed and, hence, more taxing on cognitive resources, all near-

[231]The median is a measure of central tendency which shows what the "likeliest" response of a participant is.

[232]Data were codified as 1=has a median >3 or <3 across conditions, 0= does not have a median >3 or <3 across conditions. When the model did not produce stable results, the following optimizers were used: "bobyqa", "Nelder_Mead" and "nloptwrap".

native groups exhibited indeterminacy, including the group of near-natives whose L1 is similar to the L2, i.e., the group of French near-natives. It can thus be concluded that all groups of L2ers exhibited some level of indeterminacy/optionality regarding the lexicon-syntax-discourse constraints which govern the distribution of intransitive verbs in *there*-constructions.

11.5.3. *Experiments on the types of discourse contexts*

As was the case in the experiments presented above, the group of English native speakers displayed the same pattern of behaviour across all the tasks which tested the types of discourse contexts (in)compatible with presentational *there*-constructions. In all tasks, they allowed these constructions significantly more in sentence focus contexts than in the other contexts tested (drag-and-drop task: estimate=-3.3964, SE=0.8057, $p<0.001$; speeded acceptability judgement task: estimate=-1.5422, SE=0.4605, t=-3.349). Unlike the monolingual group, the groups of L2ers were unable to distinguish felicitous from infelicitous contexts.

Consider the results of the drag-and-drop task presented in fig. 11.7.[233] Here all groups of L2ers failed to make a statistically significant distinction between the context where *there*-constructions were felicitous and all the contexts where they were infelicitous, i.e., predicate focus contexts and narrow subject focus contexts, even when their L1 was similar to the L2 (NN L1 FR estimate=1.653, SE=2.409, p=0.4926, NN L1 EP estimate=-0.9524, SE=1.3913, p=0.4936, ADV L1 FR estimate=-3.269, SE=2.701, p=0.2261, ADV L1 EP estimate=-2.562, SE=1.508, p=0.0893). As shown in table 11.7, the only statistical distinctions found in L2 data were made by the group of French near-natives and the group of advanced Portuguese L2ers. While the latter group differentiated sentence focus from predicate focus contexts as much as the controls did ($p<0.001$), the former distinguished sentence focus and narrow focus contexts (p=0.0434). This group of near-natives, however, made the distinction in the opposite direction of the English controls, i.e., they accepted more *there*-constructions in narrow focus contexts than in sentence focus contexts.

[233] Here we only present participants' results regarding PP *there* VS and *There* VSPP orders, because the focus of the study is on *there*-constructions. It should, nevertheless, be noted that, in this drag-and-drop task, all groups of participants produced (PP)SV(PP) orders in 100% of the experimental items. They also produced some PPVS orders (L1 ENG=26%, NN L1 FR=14%, NN L1 EP=28%, ADV L1 FR=23%, ADV L1 EP=13%) and *it* VSPP orders (L1 ENG=0%, NN L1 FR=3%, NN L1 EP=8%, ADV L1 FR=12%, ADV L1 EP=16%). The group of advanced EP speakers of English moreover produced sentences with the order VSPP in 5% of the items.

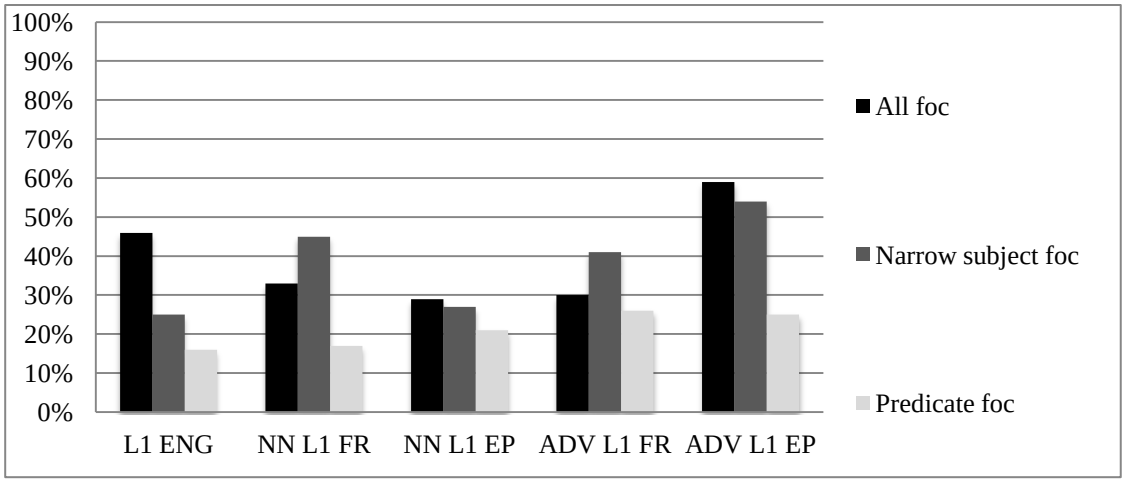

Fig. 11.7. *% of presentational there-constructions produced in the drag-and-drop task 2*

		Sentence focus vs. Narrow focus	***Sentence focus vs. Predicate focus***
L1 ENG	Estimate	-2.4408	-4.3225
	SE	0.8538	1.3421
	p	0.00425[a]	0.00128[a]
NN L1 FR	Estimate	1.6055	1.598
	SE	0.7949	2.597
	p	0.0434[a]	0.5385
NN L1 EP	Estimate	-0.1003	-0.4302
	SE	1.1405	1.0553
	p	0.9300	0.6835
ADV L1 FR	Estimate	-0.5131	-3.500
	SE	1.6170	2.837
	p	0.751	0.2172
ADV L1 EP	Estimate	-0.2716	-2.8715
	SE	0.4837	0.8049
	p	0.574	<0.001[a]

Legend: [a]=statistically significant

Table 11.7. *Within-groups comparisons of the results of the drag-and-drop task 3 (statistical model: mixed logit)*

The speeded acceptability judgement task which tested the variable "type of discourse context" yielded sligthly different results. As fig. 11.8 and table 11.8 show, with the exception of the group of advanced Portuguese speakers of English, all groups of L2ers (marginally) distinguished sentence focus contexts from predicate focus contexts in this task (NN L1 FR *t*=-1.699; NN L1 EP *t*=-1.727; ADV L1 FR: *t*==-3.148; ADV L1 EP *t*=-1.29 – cf. table 11.8). Nevertheless, they treated alike two contexts which are not equally compatible with presentational *there*-constructions: sentence focus contexts and narrow subject focus contexts (NN L1 FR *t*=0.617; NN L1 EP *t*=1.481; ADV L1 FR: *t*=-0.081 – cf. table 11.8). The only group that made a

statistically relevant distinction between these two contexts was the group of advanced EP speakers. However, as they accepted more *there*-constructions in narrow subject focus contexts than in sentence focus contexts (*t*=2.321), their behaviour diverged from that of the English monolinguals.

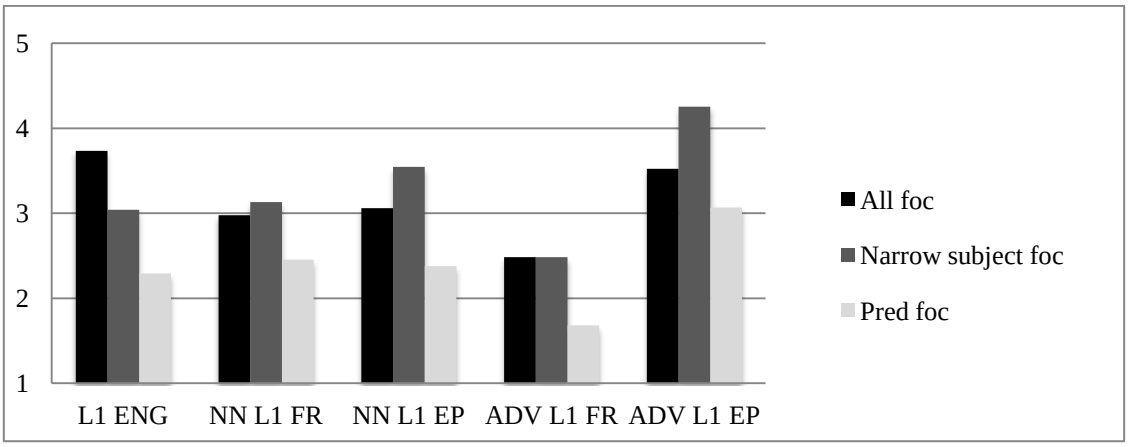

Fig. 11.8. *Mean acceptance ratings in the speeded acceptability judgement task 2 (scale 1-5)*

		Sentence focus vs. Narrow focus	***Sentence focus vs. Predicate focus***
L1 ENG	Estimate	-0.7000	-1.6133
	SE	0.3661	0.3623
	t	-1.912 [b]	-4.453[a]
NN L1 FR	Estimate	0.1556	-0.5222
	SE	0.2521	0.3074
	t	0.617	-1.699 [b]
NN L1 EP	Estimate	0.4848	-0.6818
	SE	0.3274	0.3947
	t	1.481	-1.727 [b]
ADV L1 FR	Estimate	-0.01515	-0.8030
	SE	0.18631	0.2551
	t	-0.081	-3.148[a]
ADV L1 EP	Estimate	0.6569	-0.4412
	SE	0.2831	0.3419
	t	2.321[a]	-1.29

Legend: [a]=statistically significant [b] = nearly statistical[234]

Table 11.8. *Within-groups comparisons of the results of the speeded acceptability judgement task 2 (statistical model: linear mixed effects)*

[234] To determine whether a *t*-value between 2.00 and 1.00 was marginally significant, I estimated *p* values from the *t* distribution as follows (from Baayen, 2008: 248): 2 * (1 - pt(abs(X), Y - Z))
Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. This formula estimated the following *p*-values:
(i) L1 ENG *t*=-1.912 corresponds to *p*=0.05683175
(ii) NN L1 EP *t*=1.481 corresponds to *p*=0.1410078 and *t*=-1.727 corresponds to *p*=0.08652476
(ii) NN L1 FR *t*=-1.699 corresponds to *p*=0.09105647
(iii) ADV L1 EP *t*=-1.29 corresponds to *p*=0.1985182

Contrary to what the group results presented in fig. 11.8 might suggest, L2ers did not exhibit optionality just with respect to some contexts. There was optionality across all contexts. As fig. 11.9 illustrates, in all L2 groups, there were high percentages of participants (>50%) who attributed median ratings above or below 3 across all experimental conditions, which means that they accepted or rejected presentational *there*-constructions in all the discourse contexts that were tested. In the monolingual group, in contrast, only 20% of the participants displayed this pattern of behaviour. Given that mixed logit models[235] confirmed that the differences between the control group and each L2 group are statistical (ADV L1 FR *vs.* L1 ENG: estimate=2.3671, SE=0.8568, p=0.00573; NN L1 FR *vs.* L1 ENG: estimate=1.5198, SE=0.7196, p=0.0347; ADV L1 EP *vs.* L1 ENG: estimate=1.9924, SE=0.7130, p=0.0052; NN L1 EP *vs.* L1 ENG: estimate=1.5686, SE=0.8012, p=0.0503), it can be concluded that all L2 groups exhibited optionality and/or indeterminacy regarding the types of discourse contexts compatible with presentational *there*-constructions.

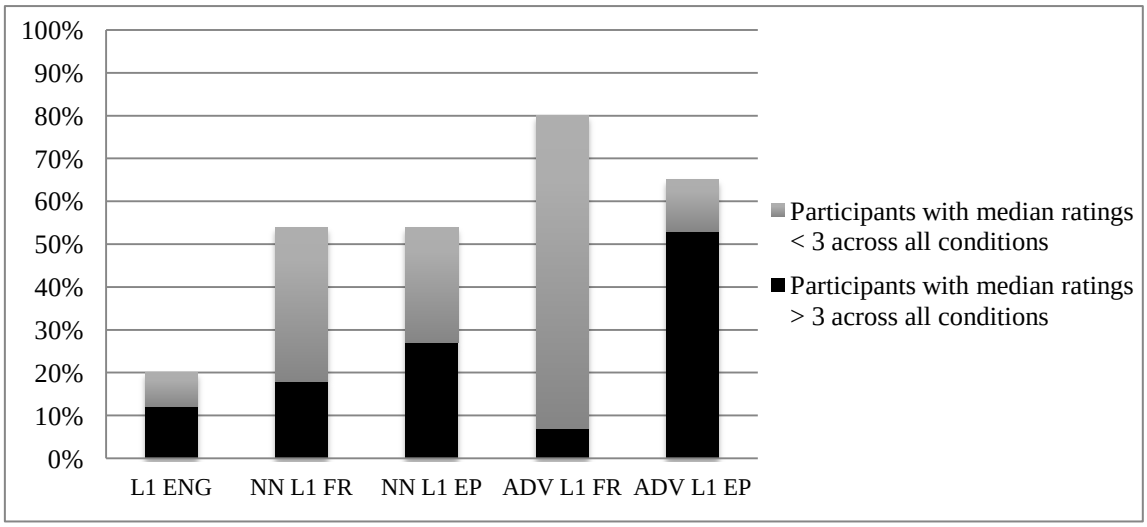

Fig. 11.9. *% of participants with median ratings > 3 across all the conditions where the subject is part of the focus in the speeded acceptability judgement task 2*

To sum up, in the present study, L2ers did not perform monolingual-like with respect to presentational *there*-constructions, even when they had the best attainable competence in the L2 – the near-native competence. While monolingual speakers of English were able to consistently distinguish the conditions which allow *there*-constructions from those which disallow them, L2ers behaved differently according to the type of property under test. As shown in table 11.9, the properties that were purely

[235]Data were codified as 1=has a median >3 or <3 across conditions, 0= does not have a median >3 or <3 across conditions. When the model did not produce stable results, the following optimizers were used: "bobyqa", "Nelder_Mead" and "nloptwrap".

lexical-syntactic did not generate problems to near-native L2ers. In contrast, the properties that involved the interface with discourse, namely the types of intransitive verbs and discourse contexts compatible with *there*-constructions, were problem areas for L2ers, even when they had a near-native level in the L2 and their L1 did not differ from the L2 in the relevant respects.

Variable	***Task***	***Near-native L2ers***		***Advanced L2ers***	
		L1 FR	**L1 EP**	**L1 FR**	**L1 EP**
Type of expletive	Drag & drop task	N	N	*	*
	Speeded acceptability judgement task	N	N	*	*
Type of intransitive verb	Drag & drop task	N	*	*	*
	Priming task	*	*	*	*
	Speeded acceptability judgement task	N	N	*	*
Type of discourse context	Drag & drop task	*	*	*	*
	Speeded acceptability judgement task	*	*	*	*

Legend: N=native-like performance *=optionality or indeterminacy

Table 11.9. *Summary of the results per task and L2 group*

11.6. Discussion

Taken together, the results of the present study disconfirm the LIH as formulated by Slabakova (2015a) and support the predictions of the IH about the end state of the L2 acquisition of interface structures, in general, and of presentational *there*-constructions, in particular. First, the finding that the distribution of the expletives *it* and *there* posed problems to advanced L2ers but not to near-natives indicates that, as predicted by the IH, lexical-syntactic properties are not a locus of permanent divergence at the end state of L2 acquisition, though they may be subject to significant developmental delays, as in the case at hand. Second, the fact that all groups of near-native and advanced L2ers exhibited optionality or indeterminacy regarding the types of verbs and discourse contexts compatible with *there*-constructions confirms that, as predicted by the IH (contra the LIH), the properties which involve the syntax-discourse interface are permanently problematic in an L2, even when the L1 of the L2ers gives them an acquisition advantage. Third, the fact that L1-L2 similarities did not prevent optionality at the syntax-discourse interface, together with the fact that the overall performance of

all groups of near-natives significantly differed from that of monolingual groups suggest that near-natives' problems were not (primarily) caused by cross-linguistic differences, but rather by differences between bilingualism and monolingualism, just as predicted by the IH (contra the LIH). Finally, the fact that, in most of the tasks which were taxing on processing resources (i.e., tasks with time constraints), the groups of near-native speakers exhibited optionality with respect to discourse-conditioned properties, including those who performed monolingual-like in the tasks that were undemanding in terms of processing (i.e., drag-and-drop tasks), is consistent with the prediction of the IH that the syntax-discourse interface is a permanent locus of optionality for L2ers because, even when their linguistic representations are target-like, they are not consistently efficient at integrating syntactic information with discourse information in real-time language use as a by-product of bilingualism.

Although the findings just listed strongly support the IH, this hypothesis is not singly capable of explaining all the results obtained in the present study, particularly when they are compared with the results of the experiments on locative inversion reported in chapter 10. Consider the results of the experiments on the variable "type of verb" summarised in table 11.10.

SVI structure	***Task***	***Near-native L2ers***		***Advanced L2ers***	
		L1 FR	**L1 EP**	**L1 FR**	**L1 EP**
Locative inversion	Drag & drop task	NN	NN	NN	NN
	Priming task	NN	*	*	*
	Speeded acceptability judgement task	*	*	*	*
***There*-construction**	Drag & drop task	N	*	*	*
	Priming task	*	*	*	*
	Speeded acceptability judgement task	N	N	*	*

Legend: N=native-like performance NN=near-native performance *=optionality or indeterminacy

Table 11.10. *Summary of the results of the experiments on the types of intransitive verbs admitted in locative inversion and there-constructions*

In the drag-and-drop task that tested the distribution of intransitive verbs in *there*-constructions, all groups of L2ers exhibited optionality or indeterminacy, except for the group of French near-natives. In contrast, in the drag-and-drop task that tested the same variable in locative inversion, all groups were able to clearly distinguish the

verbs which were acceptable from the ones which were not, despite underproducing inversion in some conditions.[236] Since verbs are subject to similar lexical-syntactic and discourse conditions in locative inversion and presentational *there*-constructions (for details, cf. chapter 4), and considering that these structures were tested on the same participants by means of identical drag-and-drop tasks and under identical conditions, only one fact can explain why L2ers behaved much better with respect to the variable "type of intransitive verb" in the drag-and-drop task that tested the former construction than in the one that tested the latter: the fact that, in English, presentational *there*-constructions are less frequent than locative inversion (Biber et al., 1999: 954-955).[237]

Construction frequency is a factor that may significantly affect the amount of exposure L2ers have to a given construction and the number of opportunities they have for using it in production and comprehension, which, in turn, may, at least partly, determine (i) whether interlanguage grammars can converge with the target language with respect to that construction at a representational level, and (ii) how automatically knowledge representations can be accessed in real-time language use. Given that, in the present thesis, all drag-and-drop tasks were untimed, lack of automaticity in access to knowledge of *there*-constructions is not very likely to be at the root of the problems found in these tasks. Probably, the most plausible explanation for the fact that EP speakers and advanced French L2ers performed non-target-like regarding *there*-constructions, despite not being under time pressure, is that they had deviant representations of the properties under test.[238] L2ers' results in the drag-and-drop tasks which focused on the variable "type of verb" may, thus, be interpreted as evidence that when a syntax-discourse construction is very infrequent in the input, as is the case of presentational *there*-constructions, only the L2ers whose L1 is similar to the L2 in the

[236] Recall that it was due to this between-group difference that we classed L2ers performance as "near-native", rather than as "native-like".

[237] Note that, as O'Grady, Lee, and Kwak (2009: 72) point out, "[i]n considering the role of input frequency in language acquisition (first or second), it is vital to bear in mind a key point: what counts is not how many times learners hear a particular form — it is how many times they encounter mappings between a form and its meaning."

[238] Given that untimed drag-and-drop tasks are not particularly taxing on L2ers' processing resources and are not vulnerable to interference from explicit knowledge when their focus is on properties that are not explicitly taught in language courses, such as the discourse-conditioned properties of locative inversion and presentational *there*-constructions, their results are likely to reflect L2ers' mental linguistic representations, at least in the cases where the property under test does not require tracking and integrating many distant pieces of discourse information. As will be tentatively proposed below (cf. the discussion after table 11.11), the quantity and/or distance of the discourse information is a factor that may impose such a heavy burden on L2ers' processing resources that, when it is combined with an extra source of processing burden, L2ers may exhibit optionality in untimed drag-and-drop tasks, even if they have no representational deficits.

relevant respects (in the present case, L2 English-L1 French speakers) are able to attain target-like representations at the end state of acquisition. From this it follows that there is some truth to the LIH.

Note, however, that our research findings disagree with this hypothesis on crucial points. First, the finding that the group of advanced French speakers of English exhibited indeterminacy in the drag-and-drop task which tested the distribution of verbs in *there*-constructions suggests that, unlike what the LIH seems to assume, an infrequent construction can be difficult to acquire even when the L1 is similar to the L2.[239] Second, the finding that all groups of L2ers performed target-like in the drag-and-drop task which tested the distribution of verbs in locative inversion indicates that, contrary to what the LIH proposes, a syntax-discourse construction does not have to be frequent to be unproblematic from a representational point of view. Even constructions that are slightly infrequent but not extremely rare, such as locative inversion, are acquirable by L2ers with different L1 backgrounds. Lastly, the fact that, in the studies into the distribution of verbs in locative inversion and *there*-constructions, the L2ers who had no representational problems exhibited optionality in the tasks that put extra load on their processing resources clearly shows that, contrary to what the LIH predicts, construction frequency and L1 transfer are not the only factors that determine whether L2ers can perform target-like at the end state of L2 acquisition at the syntax-discourse interface. Processing factors play a key role, just as predicted by the IH.

It can be, thus, concluded that our research findings do not support the LIH in its original form. They only lend support to what may be called a "weak" version of this hypothesis, which may be expressed as follows: the properties which involve the syntax-discourse interface only pose permanent representational problems to L2ers when they are (i) very rare in the input and (ii) different in the L1 and the L2 (for a discussion of French near-natives' results in the drag-and-drop task on the variable "type of discourse context" − see the discussion after table 11.11). As the scope of this weak version of the LIH is restricted to the level of linguistic representation, this version, unlike the original one, is fully compatible with the IH.[240] Recall that, in its

[239] This is not an unexpected finding, because expletive associate-inversion is a very uncommon, marked construction in French and there is plenty of evidence that L2ers resist transferring marked properties from the L1 to the L2, even when they are similar in both languages (for an overview, cf. Callies, 2012; Ellis, 2008).

[240] Recall that, as explained in chapter 7, the LIH was conceived as an alternative to the IH. It made predictions about the end state of L2 acquisition at the syntax-discourse interface as a whole and not

current form, the IH does not contend that L2ers are unable to acquire native-like representations for syntax–discourse properties; rather, it predicts that, even when representations are unimpaired, residual optionality is expected in performance due to processing inefficiencies associated with bilingualism. Crucially, only by combining the IH with the weak version of the LIH can one explain (i) why L2ers' performance in the untimed experiments on the variable "type of intransitive verb" varied according to their L1 and the frequency of the construction in the input, and (ii) why they exhibited optionality with respect to this variable in the tasks that were consuming in terms of processing resources regardless of construction frequency and L1-L2 combinations (for a discussion of near-natives' apparent native-like performance in the speeded acceptability judgement task, see below).

The latter fact is predicted by the IH and can be straightforwardly explained as follows: in speeded tasks, the extra burden that time pressure put on L2ers' finite cognitive resources, which were already taxed by the need to constantly inhibit the L1, overloaded the processor, leading to inefficiencies in the online integration of syntactic and discourse information and, subsequently, to optionality in performance, even in the cases where the underlying linguistic representations were target-like.

Although, together, the IH and the weak form of the LIH have a high explanatory power, they do not provide answers to all the questions raised by the comparison of L2ers' results in the experiments on the distribution of verbs in *there*-constructions and locative inversion. The following questions remain open: (i) Why is it that, in the speeded acceptability judgement task which tested this variable in locative inversion, all groups of L2ers exhibited optionality, but, in the one which tested it in *there*-constructions, only advanced L2ers displayed this pattern of non-target-like behaviour (cf. table 11.10)? (ii) Why is it that, in the syntactic priming task which tested *there*-constructions, all groups of L2ers exhibited indeterminacy regarding the distribution of verbs, but, in the one which tested locative inversion, there was a group that did not display this non-target-like behaviour – French near-natives?

Let us first address question (i). A comparison of monolingual and near-native speakers' results in the two speeded acceptability judgement tasks that tested the

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exclusively about what happened at the level of linguistic representation. It predicted that syntax-discourse structures would be problematic at the end state of L2 acquisition if and only if the L1 and the L2 were different and the construction was infrequent in the input or the evidence available in the input was ambiguous.

variable "type of intransitive verb" show that, contrary to what the results presented in table 11.10 might suggest, near-natives did not exhibit a significantly different level of optionality in these tasks (*p*s≥0.586). As fig. 11.10 illustrates, what happened here was that English monolinguals exhibited more optionality in the task that tested *there*-constructions than in the one whose focus was on locative inversion (estimate=1.7311, SE=0.8518, *p*=0.042110) and, as a result, the statistical comparisons between monolinguals' results and near-natives' yielded non-significant *p*-values, even though near-natives displayed similar percentages of optionality in both tasks. So, what is intriguing in these results is not the behaviour of the groups of near-natives, but rather the performance of the group of monolinguals. The main difference in monolinguals' results in the two experiments is that 15% of them rejected *there*-constructions with all the verbs tested, but none of them exhibited this pattern of behaviour with respect to locative inversion. This slight difference may be a consequence of the fact that "for many speakers *be* is the only verb which can be used with [*there*-] constructions" (Haegeman & Guéron, 1999: 121). Crucially, when we eliminate the English monolinguals who reject *there*-constructions from the statistical model, the difference between the control group and each of the near-native groups becomes statistical (L1 ENG vs. NN L1 FR: estimate=2.0065, SE=0.8377, *p*=0.0166; L1 ENG vs. NN L1 EP: estimate=1.6292, SE=0.8307, *p*=0.0498).

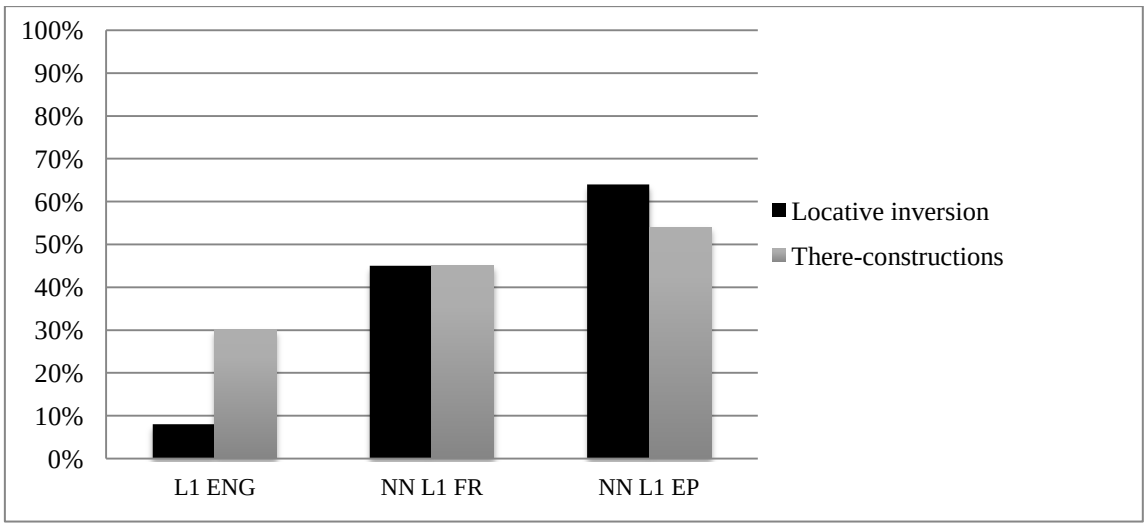


Fig. 11.10. *% of participants who rejected and/or accepted locative inversion and there-constructions across all the verb classes tested in speeded acceptability judgement tasks*

Let us now turn to question (ii). Neither the IH nor any version of the LIH can explain why near-native French speakers of English exhibited indeterminacy with

respect to the variable "type of verb" in the syntactic priming task which tested *there*-constructions but not in the one which tested locative inversion. Note that, in both cases, the properties under test were similar in the L1 and the L2 and involved the lexicon-syntax and the syntax-discourse interfaces. Furthermore, in both cases, near-natives appeared to have target-like representations of the properties under test and were highly unlikely to possess explicit knowledge about them, as these properties are not typically covered in language courses and language learning materials. The syntactic priming task which tested *there*-constructions and the one which tested locative inversion only differed in one respect: the structures they were testing are not equally frequent in English. For this reason, construction frequency is likely to be at the root of near-natives' asymmetric behaviour.

I hypothesise that, as locative inversion is generally more frequent in English than presentational *there*-constructions, French near-natives may have had more exposure to the former construction than to the latter. In addition, they may have had more opportunities to put their knowledge of locative inversion to use in production and/or comprehension. Due to these likely (but unattested) differences, and considering that there is evidence in the literature that L2ers gain automaticity in the processing of a structure by using it in comprehension and production (DeKeyser, 2001, 2009, 2015; DeKeyser & Criado-Sánchez, 2012), near-natives' knowledge of the former structure could be significantly more robust and automatized (in the sense of being more rapidly and effortlessly available for use in production and comprehension) than their knowledge of the latter.[241]

If one assumes with Dekeyser and colleagues (DeKeyser, 2001, 2009, 2015; DeKeyser & Criado-Sánchez, 2012) that "automaticity is not an all-or-nothing affair" (DeKeyser, 2015: 96) and that the more automatized linguistic knowledge is, the faster it can be accessed, the fewer attentional resources its use requires and the less error-prone it is, then one may explain French near-natives' results in syntactic priming tasks as follows: in these near-natives' interlanguages, accessing and putting the knowledge of presentational *there*-constructions to use probably consumed significantly more time

[241] Here I assume with DeKeyser and colleagues (DeKeyser, 2001, 2015; DeKeyser & Criado-Sánchez, 2012) that, in addition to being implicit (in the sense of unconscious) or explicit (in the sense of conscious), linguistic knowledge can be declarative (i.e., representations of linguistic rules) or procedural (i.e., knowledge about how to efficiently apply rule-based knowledge in performance). I further assume with these authors that, contrary to what is sometimes claimed in the literature, "declarative knowledge is not necessarily explicit, because it is not necessarily accessible to awareness (linguistic competence in the Chomskyan sense being a good example)" (DeKeyser, 2009: 121).

and attentional resources than using knowledge of locative inversion, because the former knowledge was less automatized than the latter. As a result, in the tasks that required French near-natives to produce sentences under time pressure, there might have been significantly more inefficiencies in the real-time use of their knowledge of presentational *there*-constructions than in the use of their knowledge of locative inversion. This is what probably led French near-natives to perform non-target-like in the syntactic priming task that tested *there*-constructions and (nearly) native-like in the one that tested locative inversion. Such differences were not found in drag-and-drop tasks, because, in these tasks, they were not required to access and use knowledge rapidly. There were also no differences between the speeded acceptability judgement task that tested locative inversion and the one which focused on *there*-constructions (see discussion above), probably because this task overloads the processor, even when L2ers' knowledge of a syntax-discourse property is robust.

After this comparative analysis of L2ers' results in the tasks that tested the distribution of intransitive verbs in *there*-constructions and locative inversion, let us now shift our focus of attention to the experiments on the variable "type of discourse context". Their results are summarised in table 11.11. Once again the IH is not singly capable of accounting for all the results. It remains to be explained (i) why the number of groups that exhibited optionality with respect to *there*-constructions was larger in the tasks that focused on the variable "type of discourse context" than in the ones which tested the variable "type of verb", and (ii) why L2ers performed slightly worse with respect to the variable "type of discourse context" in the tasks that tested presentational *there*-constructions than in the ones which tested locative inversion.

SVI structure	***Task***	***Near-native L2ers***		***Advanced L2ers***	
		L1 FR	**L1 EP**	**L1 FR**	**L1 EP**
Locative inversion	Drag & drop task	NN	*	*	NN
	Speeded acceptability judgement task	*	*	*	*
***There*-construction**	Drag & drop task	*	*	*	*
	Speeded acceptability judgement task	*	*	*	*

Legend: NN=near-native performance *=optionality or indeterminacy

Table 11.11. *Summary of the results of the experiments on the types of discourse contexts compatible with locative inversion and there-constructions*

Let us start by discussing question (i). The main difference between the results of the experiments on the variable "type of discourse context" and those of the

experiments on the variable "type of intransitive verb" is that the group of French near-natives exhibited optionality with respect to presentational *there*-constructions in the drag-and-drop task which focused on the former variable, but not in the one which tested the latter. This fact is neither explainable by the IH nor by any form of the LIH, as, in both tasks, the properties under test involved the interface between syntax and discourse and were similar in the L1 and in the L2.

Although so far in this chapter I have interpreted non-target behaviour in untimed drag-and-drop tasks as evidence of non-target mental representations, in this particular case, it is unclear whether near-natives' non-target behaviour really stems from representational problems. After all, if the input to which these speakers were exposed throughout the acquisition process was sufficient for them to develop target-like representations of the distribution of verbs in presentational *there*-constructions, why would it be insufficient for them to develop target-like knowledge of the discourse contexts in which this word order is felicitous? Even though we do not have sufficient data to reach firm conclusions as to whether French near-natives' problems in this task are situated at the level of linguistic representations and/or at the level of processing, I will tentatively assume that those problems may be primarily caused by processing factors[242] (just as I did in chapter 10, in the face of a similar pattern of behaviour from Portuguese near-natives). I hypothesise that French near-natives' problems in the drag-and-drop task which focused on the variable "type of discourse context" may have to do with the fact that this task required them to process many pieces of discourse information in an inter-sentential context. Note that, in order to decide whether *there*-constructions are compatible with a given context, the speaker always has to take into account the inter-sentential context to determine whether, in that particular context, all sentence constituents are part of the focus. In contrast, to decide whether a verb is felicitous in these constructions, the speaker just needs to consider the meaning of the verb in the intra-sentential context where it occurs.

[242] Obviously, unlike French near-natives, the other groups of L2ers may exhibit problems in distinguishing the right discourse contexts for *there*-constructions, at least partly, because of representational deficits. After all, if the input to which these speakers were exposed throughout the acquisition process was insufficient for them to develop target-like representations of the distribution of verbs in presentational *there*-constructions, why would it be sufficient for them to develop target-like knowledge of the discourse contexts in which this word order is felicitous? This proposal raises an important question: why would the input be sufficient for French but not for Portuguese near-natives? The (dis)similarity between L1 and L2 has an effect here. Recall that French behaves like in English in this respect, but EP does not (cf. chapter 6, section 6.5).

Due to the distance of the relevant contextual information or to its quantity or even to both factors,[243] the processing cost of tracking discourse information and integrating it with syntactic information may be higher in the tasks that focus on the variable "type of discourse context" than in the ones that concentrate on the variable "type of verb".[244] Logically, the more costly the operations of discourse tracking and integration are, the more likely they are to exceed L2ers' available cognitive resources and cause processing inefficiencies at the syntax-discourse interface, which will ultimately cause optionality in performance.

Possibly, when this source of processing load combines with other factors that also place extra burden on processing – in this case, the fact that near-natives' knowledge of the phenomena under test was probably less than optimally automatized due to construction infrequency (cf. discussion above) –, processing load may be so high that it may give rise to inefficiencies (and, consequently, optionality) at the syntax-discourse interface even in the cases where the task does not involve time pressure and the L2er's linguistic representations are unimpaired. It is important to note, at this point, that, though the drag-and-drop task we used was untimed, participants could not spend a long time on every "complex" item, because they had to do various other tasks in the experimental session (cf. chapter 8) and all tasks had a large number of items. So it is not unreasonable to hypothesise that processing load may be at the root of French near-natives' problems in the drag-and-drop task which tested the variable "type of discourse context". This is something that merits further investigation.

Interestingly, the processing load involved in tracking and integrating many pieces of distant discourse information may not only explain French near-natives' behaviour in drag-and-drop tasks, but also account for the fact that all groups of L2ers exhibited more optionality in the speeded acceptability judgement task which focused on the variable "type of discourse context" than in the one that tested the "types of verbs" admitted in *there*-constructions. Recall that, while, in the former task, each L2 group as a whole exhibited optionality with respect to some conditions that are not equally accepted by native speakers, in the latter task, no optionality was detected in

[243] It is impossible to tease these factors apart on the basis of the data at our disposal.

[244] In the tasks that focused on the type of verb, all items and fillers were preceded by a context that induced a sentence focus interpretation of the *there*-construction. By keeping the type of discourse context constant, we may have reduced the processing load of discourse tracking in this task. Probably, after a few items, participants noticed that all the contexts provided were compatible with *there*-constructions, which might have led them to stop using (many) attentional resources to determine whether or not inversion was felicitous in the context in which it occurred.

group results. Only when individual results were considered did we find non-native-like levels of optionality and indeterminacy.

Let us now turn to question (ii): why did L2ers perform slightly worse with respect to the variable "type of discourse context" in the tasks that tested presentational *there*-constructions than in the ones which tested locative inversion? There are two differences between the results of the experiments on these SVI structures. The first is that, in drag-and-drop tasks, all groups of L2ers exhibited optionality or indeterminacy regarding the types of discourse contexts compatible with *there*-constructions, but only half of them displayed this type of non-target behaviour regarding locative inversion. The second is that, in speeded acceptability judgement tasks, most L2ers (i.e., >50%) treated alike all the discourse contexts tested, including the one where the subject was the topic and the rest of the sentence was the focus, but were able to correctly judge the latter context as incompatible with locative inversion, despite exhibiting optionality with respect to the other contexts tested (cf. chapter 10).

Given that there does not seem to be any relevant difference between the experiments on the discourse contexts compatible with *there*-constructions and the equivalent experiments on locative inversion other than the fact that the constructions under test are not equally frequent in English, I tentatively propose that construction frequency is at the root of the differences found in L2ers' results. As previously noted, the frequency of a construction in the target language is likely to significantly affect the amount of exposure L2ers will have and the number of opportunities they will have to use it (in comprehension and production), which may, in turn, influence the robustness of the knowledge that will be developed of that structure and the degree of automaticity with which that knowledge will be accessed in real-time language use. Based on these assumptions, and considering that locative inversion is more frequent in English than presentational *there*-constructions, it may be hypothesised that, in general, L2ers tended to have more robust and automatized knowledge about the former construction than about the latter. This may explain the differences observed between these structures in timed and untimed tasks.

To close this discussion, it is important to note that, as in the study on locative inversion, in the present study, we found that L1-L2 similarities and the level of proficiency influenced L2ers' results. However, contrary to what happened in the case of locative inversion, the impact of these factors was only visible in the drag-and-drop

task which focused on the variable "type of verbs". In the other tasks, no differences were found across groups (all between-groups comparisons yielded *p*s>0.1), because there is a limit to the processing burden L2ers can handle and that limit, which seems to be considerably lower than the one which applies to monolingual speakers, might have been surpassed in all tasks, except for the drag-and-drop task on the types of verbs. As a result, all groups of L2ers exhibited similar levels of optionality in those tasks, even when their L1 and/or level of proficiency gave them an acquisition advantage. In the tasks on locative inversion, L1 and proficiency factors had a more visible impact on L2ers' performance probably because, in those tasks, they had one less source of processing burden and representational problems: construction rarity.

In conclusion, the present research into the end state of the L2 acquisition of presentational *there*-constructions in English yielded results which, on the one hand, lend support to the predictions of the IH and, on the other, suggest that the LIH is not completely wrong. In fact, when we compare L2ers' results in the present study with their results in the experiments on locative inversion, which were reported on in chapter 10, it becomes clear that construction frequency and cross-linguistic factors significantly influence advanced and near-native L2ers' behaviour with respect to syntax-discourse properties, but, crucially, not in the way predicted by the LIH. Contrary to what this hypothesis predicts, it is not the case that L2ers only exhibit problems at the syntax-discourse interface when their L1 is different from the L2 and the construction is infrequent in the input. As the IH proposes and our research findings confirm, performance at the syntax-discourse interface is permanently unstable regardless of these factors. They, however, play a key role in determining whether convergence with the L2 is possible at the level of representation. The results obtained in this study suggest that the properties which involve the syntax-discourse interface may only pose permanent representational problems to L2ers when (i) they are very rare in the input and (ii) different in the L1 and the L2. Besides showing that the IH needs to be supplemented by a weak version of the LIH to account for what happens at end state of L2 acquisition at the level of representation, the results of the present study indicate that this hypothesis cannot singly account for the variation in L2ers' efficiency in the online integration of syntactic and discourse information. Their efficiency seems to be influenced by two main factors which have been overlooked in the IH-related literature:

(i) construction frequency and (ii) the quantity and/or distance of the discourse information that L2ers have to process.

11.7. Piecing the puzzle together: Discussion of the overall results on pre-and post-verbal subjects in L2 English

Together, the results obtained in the experiments on the L2 acquisition of presentational *there*-constructions, locative inversion, "free" inversion and null subjects, which were presented in chapters 9 to 11, show that the final outcome of the acquisition of subjects in L2 English diverges from the outcome of monolingual L1 development, but only in some domains. In fact, while the properties which are "purely" syntactic (e.g., the ungrammaticality of null subjects and "free" inversion in English) or involve internal interfaces, such as the lexicon-syntax interface (e.g., the distribution of the expletive *it* and *there*), are unproblematic at the end state of L2 acquisition, the ones which involve the interface between syntax and discourse (e.g., the discourse conditions under which locative inversion and *there*-constructions are felicitous, and the lexicon-syntax-discourse conditions which govern the distribution of intransitive verbs in these SVI structures) are permanently problematic even for the near-native L2ers whose L1 is similar to the target language in the relevant respects. As table 11.12 makes clear, these results lend support to the IH and disconfirm the predictions of the (original form of the) LIH.

Domain	*Property*	*Group*	*IH*	*LIH*	*Actual results*
"Narrow" syntax	Null subjects and "free" inversion	NN L1 FR	**C**	-	**C**
		NN L1 EP	**C**	-	**C**
		ADV L1 FR	-	-	**C**
		ADV L1 EP	-	-	**D**
Lexicon-syntax interface	Type of expletive subject compatible with expletive-associate inversion	NN L1 FR	**C**	-	**C**
		NN L1 EP	**C**	-	**C**
		ADV L1 FR	-	-	D
		ADV L1 EP	-	-	D
Lexicon-syntax + ***syntax-discourse interfaces***	Type of intransitive verbs compatible with locative inversion	NN L1 FR	**D**	C	**D**
		NN L1 EP	**D**	D	**D**
		ADV L1 FR	**D**	C	**D**
		ADV L1 EP	**D**	D	**D**
	Type of intransitive verbs compatible with *there*-constructions	NN L1 FR	**D**	C	**D**
		NN L1 EP	**D**	D	**D**
		ADV L1 FR	**D**	C	**D**
		ADV L1 EP	**D**	D	**D**
Syntax-discourse	Type of discourse contexts compatible with locative inversion	NN L1 FR	**D**	C	**D**
		NN L1 EP	**D**	C	**D**
		ADV L1 FR	**D**	C	**D**
		ADV L1 EP	**D**	C	**D**
	Type of discourse contexts compatible with *there*-constructions	NN L1 FR	**D**	C	**D**
		NN L1 EP	**D**	D	**D**
		ADV L1 FR	**D**	C	**D**
		ADV L1 EP	**D**	D	**D**

Legend: D=divergence in at least one task C=convergence across speeded and untimed tasks - =no prediction

Table 11.12. *Summary of the predictions of each hypothesis tested in the present thesis and of the actual results*

By showing that, at a near-native level, both L1-NSL L2-English speakers and L1-NNSL L2-English speakers reset the NSP to the target value and only exhibit permanent problems at the syntax-discourse interface, the present thesis not only challenges the hypothesis about ultimate attainment which competes with the IH, but also disconfirms some claims made in recent studies on the acquisition of subjects in L2 English. These include the claim that the discourse conditions to which SVI is subject in English are unproblematic for L2ers (cf. Lozano & Mendikoetxea, 2008, 2010), and the claim that L1 transfer may never be overcome in L1 NSL-L2 English pairings (cf. Judy & Rothman, 2010; Judy, 2011; Prentza & Tsimpli, 2013).

The results of the present thesis are only consistent with the findings of previous studies into L1 NSL-L2 English pairings in the following respect: they demonstrate that the (lexical-)syntactic properties of pre- and post-verbal subjects are difficult to acquire in these language pairings. In fact, just like the L1-NSL L2-English speakers tested by Lozano and Mendikoetxea (2008, 2010) and Prentza and Tsimpli (2013), the advanced

L1-EP L2-English speakers who took part in the studies reported on in this thesis are not sensitive to the ungrammaticality of "free" inversion in English and allow the canonical subject position of VS structures to be filled by the expletive *it*. In addition, like the advanced L2ers of English tested by Judy and Rothman (2010), Judy (2011) and Prentza and Tsimpli (2013), in this study, the group of advanced Portuguese L2ers of English fails to consistently reject null subjects in the L2, particularly when the subject is either expletive or inanimate.

Though these findings are in line with the predictions of Judy and Rothman's (2010; Judy, 2011) Superset-Subset Hypothesis about L2 development, I argue that this hypothesis cannot satisfactorily explain the difficulties observed in L1 NSLs - L2 English pairings, because, contrary to what its proponents assume, NSLs and English do not really fall into a superset-subset relation regarding expletive subjects: NSLs like (standard) EP require expletive subjects to be null and English requires them to be overt. Consequently, even if, as the Superset-Subset Hypothesis claims, NSLs and English are in a superset→subset relation regarding referential subjects and SV-VS orders, the presence of overt expletive subjects in the input constitutes an unambiguous piece of positive evidence that English requires subjects to be phonetically realised. Furthermore, and considering that the study presented in chapter 9 found that, in L2 English grammars, as in other natural language grammars (cf. Costa & Figueiredo Silva, 2006; Nicolis, 2008; among others), the availability of null subjects is a pre-requisite for "free" inversion to be licensed, there is good reason to assume that the presence of overt expletive subjects in the input can serve not only as direct positive evidence that English does not allow subjects to remain unexpressed, but also as indirect positive evidence that "free" inversion is ungrammatical in this language.

In order to explain why L1 speakers of NSLs have difficulties with respect to the syntax of pre- and post-verbal subjects in L2 English despite being exposed to overt expletives from the onset of acquisition, a novel hypothesis is advanced in the present thesis: the Expletive Misanalysis Hypothesis. This hypothesis proposes that L1 speakers of NSLs like EP misanalyse (some of) the sequences with the order "overt expletive subject + verb" as a verbal form without an overt subject (e.g., they may take *it's* to correspond to *is*) until relatively late stages of acquisition due to the influence of the L1 on the way they segment the L2 input (for details, cf. chapter 9). According to this

hypothesis, L2ers are ultimately able to acquire the syntax of subjects in English, because expletive misanalysis is a temporary phenomenon.

While L2ers' (lexical-)syntactic problems with respect to pre- and post-verbal subjects are reduced as L2 proficiency increases and eventually eliminated at the near-native level, performance at the syntax-discourse interface remains permanently unstable. This pattern of results provides evidence that there is a principled difference between the linguistic phenomena that exclusively depend on modules internal to the language faculty and the phenomena that involve the coordination of syntactic information with information external to this faculty, such as discourse information. In particular, the finding that the processing load of the experimental task is a factor that affects how near-natives perform with respect to syntax-discourse properties but not how they behave regarding (lexical-) syntactic properties (cf. table 11.13) suggests that processing factors are at the root of the differences between external interfaces, on the one hand, and internal interfaces and "narrow" syntax, on the other. As proposed by the IH (Sorace, 2011c; Sorace & Serratrice, 2009; Tsimpli & Sorace, 2006), the mapping between grammatical and extra-grammatical information that happens at the syntax–discourse interface may be much more consuming in terms of processing resources than pure syntactic computations or even mappings between modules internal to the language faculty.

Domain	*Structure/property*	*Tasks*	*Near-native L2ers*	
			L1 FR	**L1 EP**
"Narrow" syntax	"Free" inversion	Untimed	N	N
		Timed	N	N
	Null subjects	Untimed	N	N
		Timed	N	N
Lexicon-syntax interface	Type of overt expletive admitted in expletive-associate inversion	Untimed	N	N
		Timed	N	N
(Lexicon-)syntax-discourse interface	Type of intransitive verb admitted in locative inversion	Untimed	NN	NN
		Timed	*	*
	Type of discourse context compatible with locative inversion	Untimed	NN	*
		Timed	*	*
	Type of intransitive verb admitted in *there*-constructions	Untimed	N	*
		Timed	*	*
	Type of discourse context compatible with *there*-constructions	Untimed	*	*
		Timed	*	*

Legend: N=native-like performance NN=near-native performance *=optionality or indeterminacy in at least one task

Table 11.13. *Summary of near-natives' results in untimed tasks and in the tasks that put extra load on L2ers' processing resources in the form of time pressure*

Although this fact can account for the asymmetries between syntax-discourse properties and (lexical-)syntactic properties in L2 English, it is not sufficient to explain why L2ers' behaviour at the syntax-discourse interface never becomes monolingual-like. Recall that, while L2ers' performance varied across tasks and conditions, the performance of the group of monolingual L1 speakers of English did not. This pattern of results is only explainable if we assume with Sorace and colleagues (cf. Sorace & Serratrice, 2009; Sorace, 2011c, 2012, 2016) that L2ers differ from monolinguals at the level of processing: the former population may have fewer cognitive resources available than the latter due to the cognitive cost of L1 inhibition, and may, consequently, be more sensitive to cognitive load. Given L2ers' sensitivity to load, and considering that the coordination of syntax and discourse information in real-time language use imposes high demands on processing resources, the inconsistency and occasional "discoordination" which was found in near-native English at the syntax-discourse interface is to be expected.

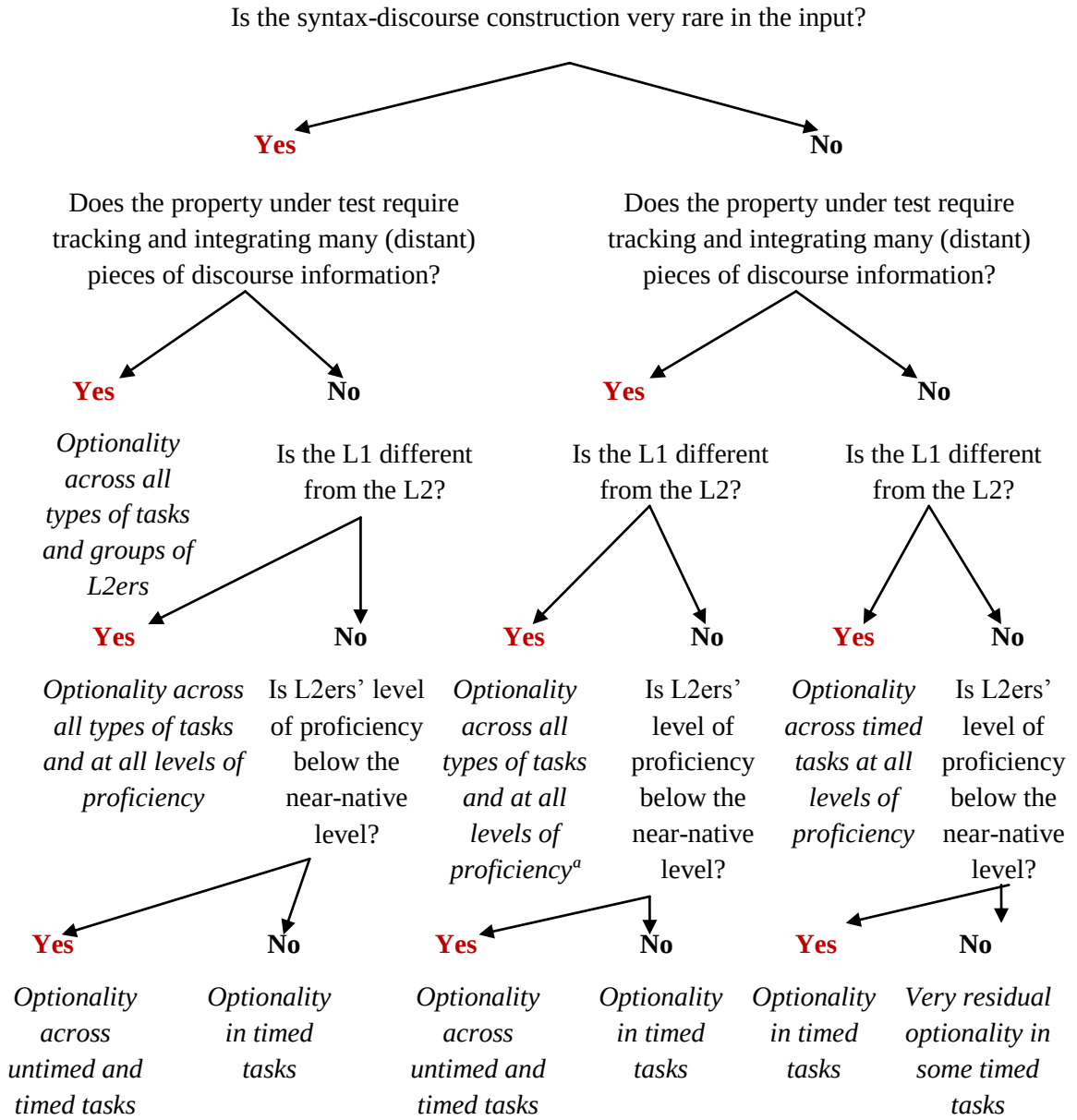
Crucially, even though the studies presented in this thesis strongly support the IH, some of their findings on the syntax-discourse interface are neither predicted nor explainable by this hypothesis as currently formulated (Sorace, 2011c, 2012, 2016). These include: (i) the finding that L2ers exhibit more optionality with respect to the variable "type of discourse context" than with respect to the variable "type of intransitive verb", even though they both involve the syntax-discourse interface; (ii) the finding that optionality was found in more groups and tasks in the study on presentational *there*-constructions that in the one on locative inversion; and (iii) the finding that EP speakers displayed optionality in more tasks than French speakers in the experiments on locative inversion and *there*-constructions.

These findings indicate that, in L2 acquisition at the syntax-discourse interface, optionality is a gradient rather than an all-or-nothing phenomenon. Together with the expected finding that advanced L2ers displayed optionality in more tasks than near-natives, the findings listed above suggest that there are, at least, four interacting factors which influence the level of optionality exhibited by L2ers at the syntax-discourse interface: (i) construction frequency (very rare construction → more optionality), (ii) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → more optionality), (iii) the similarity between the L1 and the L2 (L1≠L2 → more optionality), and (iv) the level of proficiency in the L2 (lower than the near-native level → more optionality). As explained in detail in chapter 10 and in the present chapter, all of these factors affect L2ers' efficiency in the online integration of syntactic and discourse information. Two of them seem to additionally have a crucial role in determining whether convergence at the level of representation is possible: construction frequency and L1-L2 similarity. More specifically, it seems that the structures which involve the syntax-discourse interface only pose representational problems to near-native speakers if (i) they are very rare in the input and (ii) different in the L1 and the L2.[245] Let us call

[245] As noted in the previous section, evidence for this claim comes from the fact that, in the untimed tasks that tested the variable "type of intransitive verb", all groups of L2ers behaved target-like regarding locative inversion, but most of them, with the exception of the group of French near-natives, displayed optionality regarding presentational *there*-constructions, which are very rare in English and considerably less frequent than locative inversion (Biber et al., 1999). In the untimed tasks that tested the variable "type of discourse context", the end-state L2ers whose L1 was similar to the L2 exhibited some optionality regarding *there*-constructions, probably because here they had to process a large amount of discourse information in inter-sentential context, which may have placed an extra burden on their processing resources and may ultimately have led to occasional inefficiency in discourse tracking and in

this generalisation the "External Interface Acquirability Hypothesis" to avoid unwanted confusion with the LIH.

All of the four factors identified in this thesis as predictors of the level of optionality exhibited by L2ers at the syntax-discourse interface interact in complex ways. Their interaction in the studies on locative inversion and presentational *there*-constructions is schematically summarised below:



Note: [a] The behaviour of the advanced Portuguese speakers of English is an exception to this rule (for details, cf. the discussion in chapter 10).

Fig. 11.10. *Model of the interaction between the factors that contributed to an increase of L2ers' optionality at the syntax-discourse interface in the present thesis*

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the online integration of syntactic and discourse information, even if their representations were unimpaired.

As fig. 11.10 shows, in the cases where the two factors identified as a source of permanent representational problems combine (i.e., "L1 different from the L2" and "very infrequent construction") optionality surfaces in all types of tasks. In the remaining cases, the level of optionality manifested by the L2ers varies according to the number of burdens placed on their finite cognitive resources. When the only burden put on their resources is that of coordinating syntactic and discourse information, optionality is very residual and, hence, only observable in some speeded tasks (e.g., the performance of the group of near-native French L2ers of English regarding the distribution of intransitive verbs in locative inversion). When L2ers have to handle not only the burden of integrating syntactic and discourse information, but also an extra source of processing load (e.g., having an advanced rather than a near-native level of proficiency), optionality is displayed in all of the tasks that involve time pressure. Finally, in the cases where L2ers have to deal with two extra sources of processing load (e.g., having an advanced rather than a near-native level of proficiency + having a lot of discourse information to process), optionality surfaces in all types of tasks, including those which are offline and untimed. Crucially, we found no case where the combination of three optionality-enhancing factors resulted in significantly more optionality across tasks than the combination of just two factors. This is probably because there is a limit to the processing burden L2ers can handle and two extra sources of load suffice to surpass that limit.

The results obtained in the studies on the L2 acquisition of locative inversion and *there*-constructions, which served as a basis for the model in 11.10, suggest that L1-L2 similarity, L2 proficiency, construction frequency and the amount and distance of discourse information are not equally important for determining L2ers' degree of optionality at the syntax-discourse interface. The latter two factors seem to carry more weight than the former. According to our data, when a construction is very rare and the properties under test require the integration of many distant pieces of discourse information with syntactic information, L2ers exhibit optionality across tasks, regardless of their level of proficiency and the properties of their L1. On the other hand, when the construction is not very rare and the properties under test require the integration of a few pieces of discourse information, optionality only surfaces in speeded tasks, even if the L2er is at the advanced level and his/her L1 is different from the L2. This is probably because, in these cases, there are no representational deficits

and the extra burden that proficiency and L1 factors entail for L2ers' processing resources is not sufficiently heavy to give rise to any visible inconsistencies in untimed offline tasks. L1 influence and L2 proficiency only tend to significantly influence the level of optionality displayed by L2ers in situations where only one of the two strongest optionality-enhancing factors is present (e.g., when the construction is very rare but the L2er does not have to track a lot of discourse information). Crucially, cross-linguistic factors seem to have a greater influence on performance at the syntax-discourse interface than proficiency factors, at least when only advanced and near-native levels are compared. As illustrated in 11.10, proficiency seems to play a role exclusively when L2ers' L1 is not a source of problems.

In brief, our research findings suggest that, at (highly) advanced stages of L2 acquisition at the syntax-discourse interface, there is a scale of optionality that goes from weak (i.e., optionality only manifested in some of the tasks that are taxing on processing resources) to strong (i.e., optionality manifested in all types of tasks) and is influenced by four factors which interact in non-linear ways: (i) construction frequency, (ii) the amount and distance of discourse information to be processed, (iii) L1-L2 similarity and (iv) L2 proficiency. This scale may be schematically represented as follows:

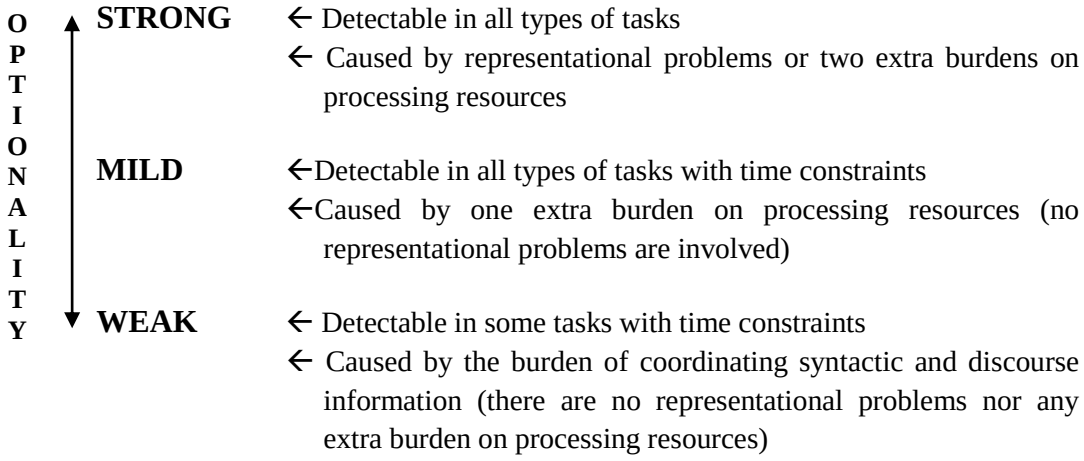


Fig. 11.11. *Scale of optionality at the syntax-discourse interface*

11.8. Summary

The synthesis and comparison of the studies on the acquisition of pre- and post-verbal subjects point to four main conclusions.

First, the end state of the acquisition of SVI and pronominal subjects in L2 English diverges from the end state of the monolingual L1 acquisition of these linguistic phenomena, but divergence is selective: as predicted by the IH, while properties involving the interface between syntax and discourse are a locus of permanent optionality, "narrow" syntactic and lexical-syntactic properties are unproblematic at the end state of acquisition, though they may be subject to significant developmental delays depending on the properties of the L2er's L1.

Second, as the IH proposes, the failure of near-native speakers to behave completely native-like can be attributed to processing inefficiencies at external interfaces which are a by-product of bilingualism and arise even when these speakers can otherwise be shown to have target-like representations and be observing UG constraints and resetting parameters.

Third, the predictions of the LIH about ultimate attainment at the syntax-discourse interface are not completely wrong. The results of the studies on the acquisition of presentational *there*-constructions and locative inversion in L2 English suggest that construction frequency together with L1 influence determine whether convergence is possible at the level of representation. More specifically, results indicate that the structures which involve the syntax-discourse interface may only pose representational problems to near-native speakers when (i) they are very rare in the input and (ii) different in the L1 and the L2.

Finally, research findings suggest that, even when L2ers' representations are target-like, they have permanent processing problems regarding syntax-discourse properties, which are more or less pronounced according to the combination of, at least, four factors: (i) construction frequency (very rare construction → more optionality), (ii) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → more optionality), (iii) the similarity between the L1 and the L2 (L1≠L2 → more optionality), and (iv) the level of proficiency in the L2 (lower than the near-native level → more optionality). Given that L2ers exhibit varying degrees of optionality at the syntax-discourse interface (ranging from weak to strong), in certain cases, untimed offline tasks can capture their optionality, but, in other cases, only the tasks that give insights about processing abilities are able to detect it. This fact may help explain why the studies conducted over the past decade (which are, in most cases, offline and untimed) have

produced conflicting results regarding the end state of L2 acquisition at the syntax-discourse interface.

Chapter 12

Exploring the interface between GenSLA and L2 pedagogy: The (differential) role of explicit instruction on the acquisition of syntactic and interface properties

12.1. Introduction

For decades, the researchers who work within GenSLA have not generally shown interest in exploring the relevance and potential applications of their findings to L2 teaching. However, there is now an increasing recognition that GenSLA has a contribution to make to L2 teaching (e.g., D. Long & Rothman, 2013; Marsden & Slabakova, 2018; Whong, 2013a; Whong, Gil, & Marsden, 2013a, 2014; Whong, Marsden, & Gil, 2013). In recent years, various GenSLA researchers have defended that, though the main focus of language pedagogy has shifted over the past four decades from the linguistic dimension of L2 teaching and learning to the communicative and (inter)cultural dimensions of these processes (see, for e.g., Byram, 1997, 2014; Canale, 1983; Canale & Swain, 1980), "linguistic competence is still one of the main supporting columns in the building of knowledge of a second language" and, "for this reason, a strong foundation in empirical research in this area is important" (Bruhn de Garavito, 2013: 18).

Thanks to the growing awareness of the potential relevance of GenSLA research to language teaching, a new subfield of research has recently emerged − Applied GenSLA (a term coined by Whong, 2013a). Its aim is to bridge the gap that currently exists between GenSLA research and language pedagogy. So far researchers have explored the interface between these areas mainly by discussing how the existing GenSLA research findings are useful for language teaching (e.g., Bruhn de Garavito, 2013; Kizu, 2013; Leal & Slabakova, 2017; Rankin, 2013; Rothman, 2010; Shimanskaya & Slabakova, 2017; Slabakova, 2014; Slabakova & García Mayo, 2013; Valenzuela & McCormack, 2013). Only a few researchers have conducted classroom research informed by GenSLA theory (e.g., Bowles & Montrul, 2008; Gil, Marsden, &

Whong, 2011, 2013a, 2013b; Hirakawa, 2013; Lopez, 2017; Umeda, Snape, Yusa, & Wiltshier, 2017).

With a view to contributing to the development of Applied GenSLA and shedding new light on the role of explicit grammar instruction (i.e., instruction which overtly draws learners' attention to the grammatical features of the target language) in L2 acquisition, the present chapter experimentally investigates two general questions raised by the findings reported on in chapters 9 to 11, which are simultaneously relevant to (Gen)SLA theory and language pedagogy: (i) When a syntactic property is acquired very late due to persistent L1 influence, as is the case of the ungrammaticality of "free" inversion and null subjects in L1 EP-L2 English, can explicit grammar instruction help L2ers converge with the target language at earlier points of their development? (ii) When a structure is a locus of persistent optionality in an L2, as is the case of syntax-discourse structures like locative inversion, can explicit grammar instruction lead to the elimination or, at least, to a significant decrease of optionality?

As will be explained in detail in section 12.2, questions similar to (i) have already been examined in the past, most notably by White and colleagues (Trahey, 1996; White, 1991, 1992; White & Trahey, 1993) . Nevertheless, the issue of whether explicit grammar instruction can help L2ers overcome persistent negative transfer from their L1 is still far from settled. Unlike question (i), as far as I know, question (ii) has never been investigated in the literature, although some GenSLA researchers (e.g., Rothman, 2010; Valenzuela & McCormack, 2013; VanPatten & Rothman, 2015; Whong et al., 2014) have speculated in recent years that explicit instruction may facilitate the acquisition of syntax-discourse phenomena and have even suggested that classroom instruction should include more focus on these often neglected interface phenomena.

Questions (i) and (ii) merit investigation not only because it is still unclear what role explicit instruction plays in the L2 acquisition of syntax and syntax-discourse phenomena, but also for two additional reasons. First, it is difficult to propose empirically-supported applications of GenSLA findings to L2 teaching in the absence of a complete picture of the role of explicit grammar instruction in L2 acquisition. Second, by researching whether explicit instruction has any effects on the acquisition of a problematic property P, we may indirectly obtain evidence as to whether input factors contribute to the acquisition problems attested in GenSLA research regarding P.

Consider the example of syntax-discourse structures like locative inversion. If, as the current version of the IH predicts (Sorace, 2011c, 2016), the attested differences between monolinguals and L2ers regarding locative inversion (cf. chapter 10) are caused by the cognitive impact of having two languages represented in the mind, no changes in the (classroom or naturalistic) input should lead to the elimination of L2ers' optionality with respect to the discourse-conditioned properties of this type of inversion. This means that if we find that L2ers are able to eliminate optionality following a teaching intervention centred on the syntax-discourse properties of locative inversion, this result can be interpreted as evidence that, contrary to what the IH predicts, L2ers' inefficiencies in the integration of syntactic and discourse information are a consequence not of the extra burden that L1 inhibition entails for their finite cognitive resources, but of input factors, such as the fact that these speakers' total exposure to the relevant structure in the target language is reduced compared to that of monolingual speakers. More specifically, it may be argued that, as Sorace (2005, 2006) herself acknowledges in her earlier work, "quantitatively reduced input may determine a drastic decrease in the number of opportunities for coordinating different information types in communication, and may therefore result in an efficiency loss for these processing abilities" (Sorace, 2005: 74).

Due to the reasons listed above, and considering the results obtained in the GenSLA studies reported on in chapters 9 to 11, the present chapter investigates how explicit instruction affects the acquisition of the following linguistic phenomena in L1 EP - L2 English: (i) the unavailability of "free" inversion, which is a narrow syntactic property that is generally acquired at a near-native level by Portuguese speakers of English (cf. chapter 9), and (ii) the distribution of intransitive verbs in locative inversion, which is a phenomenon that involves the lexicon-syntax interface and the syntax-discourse interface and is an area of persistent optionality in L2 English (cf. chapter 10). The chapter is structured as follows: section 12.2 summarises the main findings of previous generative and non-generative research into the role of explicit grammar instruction in L2 acquisition and identifies problems and questions that need to be addressed in future research. In the light of this critical review of the literature, in section 12.3, I formulate the research questions and hypotheses of the present study. Section 12.4 describes the methodology of the study. In sections 12.5 and 12.6, I report

and discuss its results. Finally, the implications of the study for L2 teaching are presented in section 12.7.

12.2. Previous (generative and non-generative) research on the role of explicit grammar instruction

Over the past decades, research into classroom instruction has been typically conducted within what we may imprecisely (but conveniently) term "non-generative" frameworks. Within GenSLA, matters of input have generally received little attention. This is probably because a large body of GenSLA research has shown that L2ers come to know subtle properties of the L2 which are underdetermined by the input (both naturalistic input and classroom instruction) and cannot be derived from the L1 (cf. White, 2003b, 2015). This finding, which is taken to be a robust piece of evidence that part of the unconscious knowledge speakers have of an L2 is derived from an innate UG[246], has led the field of GenSLA to emphasise the role of the factor that Chomsky (2005) terms "the genetic endowment" and deemphasise (but never deny) the role of linguistic experience in determining the properties of interlanguage grammars. After decades of research into whether and how L2 acquisition is constrained/directed from within (for an overview, cf. White, 2013), in recent years, GenSLA researchers have started to actively investigate the impact of the linguistic environment on acquisition. A relatively new idea in generative theorising is that the time needed for convergence with respect to some linguistic phenomena and even the possibility of convergence itself may, at least partially, depend on how much evidence there is in the input and how clear that evidence is (e.g., Domínguez & Arche, 2014; Rankin & Unsworth, 2016; Slabakova, 2015a; Westergaard, 2009; Yang, 2002; Yang & Montrul, 2017). Despite this growing interest in the role of the linguistic environment in L2 acquisition, within GenSLA, there is still little research on the impact of classroom instruction on acquisition (exceptions include Bowles & Montrul, 2008; Gil et al., 2011, 2013a, 2013b; Hirakawa, 2013; among others).

[246] Recall that, in generative theory, Universal Grammar is an innate system of categories, invariant principles and variant parameters that predetermines the form and functioning of natural language grammars and constrains the ways in which they vary. Universal Grammar was proposed as an explanation for the following well-documented fact, which is known as poverty of the stimulus or Plato's problem or the logical problem of language acquisition (Chomsky, 1986): L1 acquirers come to know properties of grammar that go far beyond the input to which they have been exposed.

Within this paradigm, there is, however, a great deal of debate about the role of explicit grammar instruction. Two theoretical positions have been advanced regarding the issue of whether explicit instruction can affect the development of L2ers' linguistic competence (or interlanguage competence), i.e., the unconscious and abstract system of linguistic knowledge that underlies spontaneous comprehension and production in the L2. These are sometimes labelled the "non-interface position" and the "interface position".

According to the non-interface position, which was first proposed by Krashen (1982) and later developed within a generative framework by Schwartz and her associate Gubala-Ryzak (Schwartz, 1986, 1993; Schwartz & Gubala-Ryzak, 1992), explicit positive evidence (i.e., explicit information about what is possible in the target language) and explicit negative evidence (i.e., evidence of what is impossible in the target language provided through explicit instruction and/or corrective feedback) are incapable of changing L2ers' linguistic competence. Based on the Fodorian/Chomskyan assumption that linguistic competence is constrained by UG and forms part of a domain-specific language module within the human mind – the faculty of language –, Schwartz (1986, 1993) argues that, in an L2, as in an L1, this competence can be developed by means of implicit acquisition mechanisms, specific to the language module, but crucially not by means of domain-general cognitive processes, such as logic and memorisation techniques. She further argues that, in L2 acquisition, as in L1 acquisition, language acquisition devices and UG operate on the language the learner actually hears and sees in his/her surroundings (i.e., primary linguistic data) and not on information about language. Explicit grammar instruction can only help create what Schwartz labels "learned linguistic knowledge", which corresponds to the type of knowledge that is commonly called "explicit linguistic knowledge" in that it constitutes conscious, analysed knowledge about language that is not readily available for use in spontaneous production and comprehension. Like Krashen (1982), Schwartz (1986, 1993) sees learned linguistic knowledge and linguistic competence as forever distinct in the L2er's brain. Put differently, there is no interface between them. From this view it follows that any development of linguistic competence in instructional settings is due to the presence of meaningful L2 input rather than to a transformation of explicitly learned knowledge into the kind of implicit (i.e., unconscious) knowledge of language that forms part of linguistic competence.

In contrast to the non-interface position, the interface position claims that explicit positive and negative evidence may contribute to the shaping of L2ers' linguistic competence, particularly in the cases where primary linguistic data are insufficient or too ambiguous for a certain property to be acquired (cf. Slabakova, 2016; White, 2015). In the latter cases (e.g., when L2ers make overgeneralisations based on the L1 whose ungrammaticality cannot be signalled by any piece of positive evidence in naturalistic input[247]), explicit instruction with negative evidence is speculated to be not only beneficial but even necessary to trigger convergence with the L2 (cf., Slabakova, 2002; White, 1991, 1992; White & Trahey, 1993) . Within GenSLA, this interface position was first proposed by White (1991, 1992) and has been gaining in popularity in recent years (e.g., D. Long & Rothman, 2013; Slabakova, 2014, 2015b; 2016; chapters in Whong, Gil, & Marsden, 2013b). Despite recognising that explicit grammar instruction plays a role in L2 acquisition, the GenSLA researchers who adopt this position stress that L2 acquisition is a predominantly unconscious process (Slabakova, 2015b, 2016; White, 2015). They see explicit instruction and negative evidence only as "shortcuts to internalization, processing, and building of the mental representations" (Slabakova, 2016: 411). The question of how exactly explicit grammar instruction is utilised in the reorganisation of L2ers' mental grammars has not been much discussed by those who subscribe to the interface position. One of the few researchers who attempted to address this question was Slabakova (2015b, 2016). According to her,

> […] when a learner is instructed on and practices grammar […] in appropriate, varied, and unambiguous contexts in a classroom, she is implicitly acquiring all its underlying grammatical features. When she is prompted to notice some otherwise elusive property through explicit instruction, she may use this piece of knowledge consciously until it becomes procedural, then automatic, and enters grammatical competence. (Slabakova, 2016: 411)

The value of explicit grammar instruction has also generated much theoretical debate in non-generative paradigms. In addition to the non-interface position associated with the work of Krashen (1982), two positions have been articulated regarding the question of whether explicit instruction affects the development of implicit linguistic knowledge (i.e., unconscious, abstract knowledge of language that underlies

[247] White (1991, 1992) and Slabakova (2002) argue that this happens when the L1 and the L2 fall into a superset-subset relation regarding a parameter of UG and the L2er adopts the superset of the parameter for the L2 as a result of L1 influence.

spontaneous production and comprehension): a strong interface position and a weak interface position. On the one hand, the strong interface position holds that explicitly learned knowledge can be converted into implicit knowledge through large amounts of practice (DeKeyser, 1997, 2001, 2003, 2015; DeKeyser & Criado-Sánchez, 2012). On the other hand, the weak interface position claims that explicitly learned knowledge cannot become implicit, but it can facilitate the development of implicit knowledge by priming L2ers to notice non-salient features in the input or discrepancies between the input and their own output (Ellis, 1993, 1994, 2008).

Over the past decades, meta-analyses of the numerous instructional studies carried out in the field of L2 acquisition (e.g., Goo, Granena, Yilmaz, & Novella, 2015; Li, 2010; Mackey & Goo, 2007; Norris & Ortega, 2000, 2001; Russell & Spada, 2006; Spada & Tomita, 2010) have consistently showed that explicit grammar instruction and corrective feedback can improve L2ers' linguistic performance and result in more sizeable gains than implicit types of L2 instruction and feedback. However, the effect sizes of explicit instruction tend to be significantly higher in post-tests close to the end of the teaching intervention than in those that take place sometime after the intervention (e.g., Li, 2010; Spada & Tomita, 2010), which indicates that, in many cases, instruction does not result in internalised (and hence stable, durable) linguistic knowledge.

Besides varying according to the timing of measurement, effect sizes vary considerably depending on the type of measurement employed. In their seminal meta-analysis of 49 instructional studies, Norris and Ortega (2000), for example, found that the effect sizes for free constructed responses, which they considered the best measure of implicit knowledge, were much lower than the effect sizes for the measures that were more permeable to explicit knowledge, such as untimed grammaticality judgements and selected responses (e.g., multiple choice items). Given that the latter types of measures are the most commonly used in instructional studies (cf. Norris & Ortega, 2000), and considering that these studies rarely include a delayed post-test at more than just a few weeks after the end of the teaching intervention (cf. Whong et al., 2014), the question arises as to whether the apparent benefit of explicit instruction reported on in meta-analyses such as Norris and Ortega's (2000, 2001) resulted from the fact that most primary studies only measured explicit knowledge.

There is, nevertheless, some evidence that explicit instruction can contribute to the acquisition of implicit linguistic knowledge. Ellis (2002a) reviewed eleven studies

that included free constructed responses as a measure of learning and found that six of them reported accuracy gains in oral production. More recently, in a study on the acquisition of articles in L2 English, Akakura (2012) also found durable effects for explicit instruction on measures of implicit knowledge. Taken together, the findings of non-generative classroom research suggest that explicit instruction and feedback have a stronger effect on explicit knowledge than on implicit knowledge, but can positively affect the development of L2ers' linguistic competence, at least in some cases.

The few classroom-based experiments that have been conducted within a GenSLA framework point to a similar conclusion. The first GenSLA studies to investigate the effects of classroom instruction were carried out by White and Trahey (Trahey, 1996; White, 1991, 1992; White & Trahey, 1993) . These studies investigated the acquisition of adverb placement by francophone adolescents (aged 11 to 12) who were in intensive, communicative L2 English programmes in Quebec, Canada. The studies followed a pre-test, treatment, post-test and delayed post-test design. Three types of untimed tasks were used to determine whether L2ers accepted and used SAV orders (grammatical in English but not French) and SVAO orders (ungrammatical in English but grammatical in French) in L2 English: a grammaticality judgement task, a sentence preference task, and a sentence manipulation task, where participants were handed a set of word cards and asked to form sentences using the words. These tests, which are highly permeable to explicit knowledge, showed that the L2ers who were only exposed to a "flood" of naturalistic input succeeded in acquiring the order SAV, but failed to eliminate SVAO orders from their interlanguage grammars. Only the L2ers who received explicit instruction and negative evidence about adverb placement were able to overcome negative transfer from their L1 and reject SVAO orders in immediate post-tests and in the delayed post-tests which were administered 5 weeks after the teaching intervention. In the post-tests, these L2ers moreover displayed no significant problems with regard to SAV orders, which tended to be incorrectly rejected prior to instruction. The results from a follow-up study, however, revealed that one year after the teaching intervention L2ers had reverted to their pre-intervention behaviour regarding both SVAO and SAV orders. These findings indicate that explicit instruction did not trigger any changes in L2ers' underlying linguistic competence. If instruction had resulted in true acquisition (in the sense of the development of target-like mental representations of grammar), the knowledge of adverb placement that L2ers showed

after the teaching intervention would have been retained not only in the short term but also in the long term, for acquired linguistic knowledge is stable and durable.

Although, in recent years, various GenSLA studies have yielded results similar to those reported by White and Trahey (e.g., Gil et al., 2013a, 2013b; Lopez, 2017; Umeda et al., 2017), within this paradigm, there is some evidence that it is possible for explicit grammar instruction to be utilised in the reorganisation of interlanguage grammars. For example, in a study on the acquisition of the compounding parameter[248] in L1 English-L2 Spanish, Slabakova (2002) found that 10 of her 26 advanced participants were able to successfully reset the whole compounding parameter from the English value to the Spanish value based on explicit instruction for only two of the four constructions whose (un)availability depend on this parameter. This finding indicates that, at least in some cases, explicit instruction can and does shape linguistic competence.

In recent years, the focus of research into instructed L2 acquisition has shifted from the overall effectiveness of explicit instruction toward more specific and contextual issues that may affect instructional outcomes, such as the type and length of instruction, the type of target feature or the individual characteristics of the L2er (for an overview, cf. de Graaff & Housen, 2009). In this review of the literature, I concentrate on two variables that are directly relevant to the experimental study that will be presented in the next sections: (i) the timing of instruction and (ii) the type of language feature targeted by instruction.

The timing of instruction has long been recognised as a factor that influences the effectiveness of explicit grammar instruction (Lightbown, 1998, 2013). A number of studies conducted in the 1980s and 90s (e.g., Ellis, 1989; Mackey & Philp, 1998; Pica, 1983; Pienemann, 1984, 1989) showed that, when an aspect of grammar is developed along a fixed sequence of stages (e.g., question formation), explicit instruction is unable to change the "natural" route of acquisition, but can assist L2ers to move more rapidly through it, particularly if the structures targeted by instruction are within the L2er's "developmental reach". There are, however, conflicting results as to whether developmental readiness is a necessary condition for explicit instruction to produce positive effects. On the one hand, Pienemann (1984, 1989), Ellis (1989) and Mackey

[248] The compounding parameter determines that languages allow complex predicate constructions like verb particles, resultatives, and double objects if and only if they can productively form N-N compounds.

and Philp (1998) found that, when a group of L2ers at level x and another group at a level x+1 received the same amount and type of instruction/feedback about structures from level x+2, those who were at level x + 1 progressed to level x + 2, but those who were at level x did not make any progress. In other words, explicit instruction only resulted in gains when it targeted a structure that L2ers were developmentally ready to learn. Spada and Lightbown (1999), on the other hand, found that instruction directed at a developmental stage that was somewhat beyond L2ers' level helped them to move to a higher stage, even if they did not reach the level reflected in the instructional input. As the impact of learner (un)readiness on the effectiveness of explicit instruction has been little researched since the beginning of the 21st century, it remains unclear whether or not developmental readiness is a pre-condition for instruction to be effective.

At present, one of the factors that are most often cited as a variable that impacts on the effectiveness of explicit instruction is the type of target structure (DeKeyser, 2003, 2005; Ellis, 2002a; Spada & Tomita, 2010). Although there is a growing consensus among researchers that explicit instruction may be more effective for some language structures than for others, there is still little research on this issue. The first attempt to systematically examine the relative effectiveness of L2 instruction for different types of language features was made by Spada and Tomita (2010). In order to determine whether there is any interaction between the complexity of the target feature and the effectiveness of L2 instruction, they conducted a meta-analysis of 41 instructional studies. Following Hulstijn and de Graaff (1994) and Celce-Murcia and Larsen-Freeman (1999), in this meta-analysis, Spada and Tomita defined complexity in terms of number of derivations involved in arriving at a particular form, and accordingly classified language features into two categories: simple and complex features. Their meta-analysis revealed that overall effect sizes were larger for explicit instruction than for implicit instruction, regardless of the complexity of the linguistic phenomenon. Within the categories of explicit and implicit instruction, there was, however, a surprising effect of complexity: complex forms had larger effect sizes than simple forms.

In view of these counter-intuitive results, Spada and Tomita suggested that their definition of linguistic complexity might have undermined their research. In fact, the number of derivations associated with a linguistic form is a doubtful metric of complexity. On the basis of this metric, Spada and Tomita, for example, categorised

articles as "simple features". Yet, as is by now well established in GenSLA circles, articles are anything but simple to acquire (e.g., Ionin, Ko, & Wexler, 2004; Ionin, Montrul, & Santos, 2011). The inaccuracy of Spada and Tomita's definition of complexity is, thus, likely to be one of the reasons why they failed to find any interaction between the type of target feature and the overall effectiveness of explicit and implicit instruction.

As Whong and colleagues (Whong, 2013a; Whong et al., 2014) argue, the solution to the problems of definition that have plagued SLA research into the effectiveness of instruction for different types of language features may be found in GenSLA. As noted in chapter 7, in the last couple of decades, GenSLA research has sought to determine which aspects of language are readily acquired and which are not. After decades of research, we now have plenty of evidence that the specific domains involved in a given linguistic property affect how easy or difficult that property is to acquire (Slabakova, 2008; Sorace, 2011c). In addition, we have a fairly complete picture of what is difficult to acquire and what is not. For this reason, GenSLA research findings can provide a sound basis for defining the complexity of linguistic properties, and, thus, contribute to the advancement of SLA research on explicit instruction. For example, given that, as the studies presented in chapters 9 to 11 prove, syntax-discourse properties are more complex for L2ers than "narrow" syntactic properties, it would be useful to compare the effects of explicit instruction on these two types of properties, in order to test whether and how the effectiveness of explicit instruction varies according to the "complexity" of the target structure. To the best of my knowledge, no study has made this type of comparison nor investigated whether explicit instruction produces effects when it is directed at syntax-discourse properties. These issues merit investigation, particularly in view of the fact that, in recent years, various researchers (e.g., Rothman, 2010; Valenzuela & McCormack, 2013; VanPatten & Rothman, 2015; Whong et al., 2014) have hypothesised that "if the syntax-discourse interface is problematic in L2 acquisition, this could be precisely where increased classroom attention could be beneficial" (Whong et al., 2014: 560).

In sum, while classroom research has clearly shown that explicit instruction and feedback improve L2ers' explicit knowledge of the target language, its results are not conclusive as to whether, and under what circumstances, explicit instruction can trigger restructuring of interlanguage grammars and, consequently, result in durable,

internalised knowledge. One of the key questions that need to be investigated in the future is whether and how the effectiveness of explicit instruction varies as a function of the nature of the linguistic property to be learned. Such question can only be properly investigated if researchers take into consideration what GenSLA research has shown about the relative difficulty or ease of the acquisition of different linguistic domains and interfaces. In short, GenSLA needs to go from the lab to the classroom.

12.3. Research questions

In the light of the current state of the art, and considering that the studies presented in chapters 9 and 10 revealed that, in L1 EP-L2 English, the ungrammaticality of "free" inversion is only fully acquired at a near-native level, and that the syntax-discourse properties of SVI are problematic even for near-native speakers, the following research questions were formulated:

i. Does explicit grammar instruction (with naturalistic input, explicit positive and negative evidence and practice activities) help intermediate and low advanced Portuguese L2ers of English to converge with the target language regarding a problematic "narrow" syntactic property like the unavailability of "free" inversion in English?

ii. Does explicit grammar instruction (with naturalistic input, explicit positive and negative evidence and practice activities) help intermediate and low advanced Portuguese L2ers of English to eliminate or, at least, significantly reduce their optional behaviour regarding a linguistic phenomenon that involves the interface between syntax and discourse like the distribution of intransitive verbs in locative inversion?

iii. Does the effectiveness of explicit instruction vary according to the type of target structure?

"Free" inversion and locative inversion are ideal structures to test for the effects of explicit instruction in L2 acquisition, because there is generally little or no systematic work on these linguistic phenomena in English courses,[249] and yet these are phenomena

[249] Note that, while locative inversion is almost never taught in English courses, the ungrammaticality of "free" inversion may receive some attention in English classes in the form of explicit corrective feedback. However, there is typically no systematic work on this phenomenon.

that L2ers struggle to master, particularly if their L1 is a language like EP, which has a more flexible word order than English.[250] In the case of the acquisition of "free" inversion, the difficulties of Portuguese L2ers of English result from persistent L1 influence (cf. chapter 9). In the case of the distribution of intransitive verbs in locative inversion, their problems are caused not only by L1 influence, but also by inefficiencies in the integration of syntactic and discourse information in real-time language use, which are common to all L2ers, including those whose L1 is similar to the L2 in the relevant respects (cf. chapter 10). Given that L2ers' inefficiencies at the syntax-discourse interface are currently claimed to be a consequence of the cognitive effects of bilingualism (cf. chapter 7), and considering that the studies presented in chapters 9 and 10 showed that, while locative inversion is a locus of permanent optionality in L2 English, the ungrammaticality of "free" inversion is fully acquirable in this language, I predict that explicit instruction will not trigger convergence with the L2 regarding locative inversion, although it may help L2ers overcome their problems with respect to "free" inversion.

12.4. Methodology

In order to investigate the research questions listed above, a small-scale experimental study was conducted with native speakers of EP who were studying English at the Universidade Nova de Lisboa. Participants in the experimental group were exposed to explicit instruction with a mixture of positive and negative evidence about the distribution of verbs in locative inversion and the (im)possibility of SV/VS orders in narrow and sentence focus contexts. Controls did not receive any instructional treatment. Experimental and control groups were tested before the teaching intervention and post-tested twice – immediately after the intervention, and again five weeks later (cf. table 12.1). Details about participants' profile, teaching materials, tests and data analysis are presented below.

[250] Recall that, although both EP and English are SVO languages, EP allows ØVS orders in some contexts where English only permits SV orders. While EP admits locative inversion with all subclasses of intransitive verbs, English only permits it with some intransitives (more specifically, unaccusative verbs of existence and appearance and redundant unergatives).

Week 1	Pre-test
Week 2	Unit on SV/VS orders
Week 3	Unit on locative inversion
Week 4	Revision activities + Post-test 1
Week 9	Post-test 2

Table 12.1. *Research timetable*

12.4.1. *Participants*

The participants in this study were 20 Portuguese L2ers of English, who were randomly assigned to the experimental and control groups, and 26 native speakers of English, who constituted the monolingual baseline group. These L1 speakers of English were the same who participated in the studies presented in chapters 9 and 10. They were university students, between the ages of 18 and 52, of British (57,7%), North American (34,6%) and Australian (7,7%) origin, who lived in Scotland and had no advanced competence in an L2, although they had received formal language instruction at school. The L2ers of English were university students, with ages ranging from 18 to 28, who were attending an English B2.2 course as part of their undergraduate studies. At the time of testing, they had been learning English for a minimum of 8 and a maximum of 14 years. Most participants' initial exposure to English had occurred between the ages of 8 and 10 (n=14). Only in 6 cases had this exposure started at a younger age (4 to 7). All participants learned English almost exclusively in instructional settings. None of them had ever lived in an English-speaking country.[251]

The L2 participants were selected on the basis of their results on the pre-test which will be described in section 12.4.3. On this test, which simultaneously served as a pre-test and a participant selection test, all of them displayed problems with respect to "free" inversion and the types of verbs admitted in English locative inversion. After being selected for inclusion in the study, participants were administered the Oxford Quick Placement Test, a 30-minute placement test designed by Oxford University Press and the University of Cambridge Local Examinations Syndicate. This test revealed that, while 8 participants had already progressed to the C1 level of the Common European Framework of Reference for Languages (Council of Europe, 2001), 12 of them were

[251]These data were collected by means of the socio-linguistic questionnaire in Appendix A.

still at the B2 level. Half of the L2ers of each proficiency group were, then, assigned to the experimental group and the other half to the control group. Detailed information about each group's age, age of onset and length of language learning are provided in table 12.2.

Group	***Age***		***Age of onset of English acquisition***		***Years of English language learning in an instructional setting***	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Experimental group (*n*=10; 4 C1s + 6 B2s)	20.3	2.9	7.5	1.1	9.9	1.3
Control group (*n*=10; 4 C1s + 6 B2s)	19.2	0.9	7.4	1.9	11.6	2.2
L1 English (*n*=26)	23.1	6.7	NA	NA	NA	NA

Table 12.2. *Participants' age, age of onset and years of English language learning*

12.4.2. *Teaching materials*

Participants in the experimental group received explicit instruction on the distribution of verbs in locative inversion and on how to form complete answers (i.e., answers with the subject and the lexical verb) to sentence focus questions (e.g., "what happened?") and narrow focus questions (e.g., "who arrived?"). The instruction was delivered through two computer-assisted language learning (CALL) units, which were created on Google Forms and included a series of grammar-discovery and practice activities that participants had to complete on their own.

CALL was used in this study for two reasons. The first is that the participants recruited for the experiment were from different English B2.2 classes and had such diverse timetables that it would be difficult to schedule plenary teaching sessions with them. The second reason is that, in CALL activities, the researcher has control over a number of variables that are not easily controllable in a classroom setting, such as participants' engagement and progress during a lesson. In fact, while, in classroom settings, it is hard to determine whether or not each and every single learner is progressing as expected and paying attention to the teacher and teaching materials, in a CALL mini-course like the one devised for the purposes of this study, this can be easily

determined because the answers each learner provides during the lesson are registered by the software. Due to the advantages of CALL, in recent years, various experimental studies have used computer-assisted instruction instead of classroom instruction to test the effectiveness of explicit instruction. These include Akakura (2012), Bowles and Montrul (2008) and Montrul and Bowles (2008, 2010). Interestingly, all of the aforementioned studies found that computer-assisted grammar instruction resulted in gains, at least in the short-term.

The CALL units used in the present study contained both positive and negative evidence. Authentic texts, example sentences and grammar explanations provided participants with positive evidence about the verbs that can undergo locative inversion in English and the use of SV orders in sentence and narrow focus contexts. In addition, corrective feedback and some explanations and activities about L1-L2 contrasts provided participants with negative evidence by alerting them to the following facts: (i) that, unlike EP, English does not admit ØVS orders; and (ii) that, contrary to EP, English does not permit locative inversion with unaccusative verbs of change of state and non-redundant unergatives.

Each unit concentrated on a different linguistic phenomenon but had the same design and duration (around 75 min). The units followed the structure below, which was adapted from Ellis and Gaies (1998) and Ellis (2002b) (for the complete units, see appendixes H and I):

i. *Listening or reading to comprehend*: Participants first listened to / read an authentic text containing several examples of the target structure. Then, they had to answer questions which required them to focus on the meaning of the text.

ii. *Listening or reading to notice*: participants listened to / read the text a second time (and if necessary a third or fourth time) to either complete a gapped version of the aural text or find instances of the target structure in the written text. The purpose of these activities was to assist the process of noticing, which is viewed by many researchers as a pre-requisite for L2 acquisition (Schmidt, 1990, 1993, 2001).

iii. *Rule-discovery and explanation*: building on the data from the texts, a series of simple questions guided the participants to discover the constraints to which the target structure is subject. After answering those

questions, a short and simple explanation about the structure in question appeared. Participants had to read it and use that information to self-correct their answers to the preceding questions.

iv. *Controlled practice*: participants were given three types of controlled practice activities: a translation activity, a grammaticality judgement/correction activity, and a sentence manipulation activity. In the first activity, participants were presented with two translations of a Portuguese sentence and asked to select the correct option. The second activity required them to judge the grammaticality of English sentences and correct them if necessary. Some of the sentences used in this activity contained errors typically made by L1 speakers of EP. Finally, in the third activity, participants were presented with a context and asked to create an appropriate continuation by ordering the (blocks of) words provided to them. These activities, on the one hand, allowed L2ers to put their explicit knowledge to practice and, on the other, encouraged them to compare their L1 to the L2 and notice the gap between these linguistic systems.

v. *Free practice*: with a view to providing the participants with the opportunity to try out their understanding of the target structures in free production, all units closed with a short written production activity. The emphasis here was not so much on practising the structure as on proceduralising L2ers' declarative knowledge, a step DeKeyser (1998, 2015) considers to be necessarily intermediate between the learning of explicit knowledge and its automatization as implicit-like knowledge.

vi. *Clarification questions*: participants could ask clarification questions and express their doubts (either in English or in EP) in a text box that appeared at the end of the unit. These questions were then answered via e-mail by the researcher.

vii. *Self-correction*: After submitting their answers to the activities, participants automatically received the answer key and a copy of their answers, which they had to self-correct and resubmit. In order to make sure that participants had corrected all of their errors, the researcher verified the corrected versions of the answers. Whenever there were still

uncorrected errors, this was pointed out to the participant via e-mail. Errors in free production activities were only corrected by the researcher when they affected the structures targeted by instruction.

After concluding the two units, participants were asked to complete a series of revision activities on locative inversion and SV/VS orders (cf. appendix J). Activities included the following: judging the correctness of sentences and correcting them if necessary, putting scrambled sentences into correct orders, and choosing the best translation for Portuguese sentences. These revision activities were done on Google Forms on the day before the first post-test and required 30 minutes to complete. Upon completion, participants received computer-generated feedback. Correct answers were marked as right with a green tick (✓), and incorrect answers were marked as wrong with a red cross (✗). In the latter case, the correct answer appeared on the screen, along with a short explanation.

The teaching materials used in the present study differ from the materials used in previous research on explicit instruction in a crucial respect: they did not just include grammar explanations and controlled practice activities; they also exposed participants to the target structures in naturalistic contexts. This is a relevant difference because the lack of incorporation of naturalistic input in explicit instruction has been speculated to be one reason why instruction failed to trigger changes in linguistic competence in some studies. For example, Trahey (1996:136) claims that, in the experiments on adverb placement that she conducted with White (Trahey, 1996; White, 1991, 1992; White & Trahey, 1993) , naturalistic input alone "may have failed [...] because *no* attention was drawn to structure at all". Similarly, "it may be that the metaknowledge provided to the adverb group [i.e. the group that only received explicit instruction] focused too much on the explicit rules of adverb placement without providing the students with exposure to the adverbs used in naturalistic context" (Trahey, 1996: 136). On the basis of her research findings, Trahey (1996: 136) speculates that "perhaps positive or negative evidence alone is insufficient. Rather, some combination of the two may result in higher levels of success". This is why the materials in this study combine naturalistic input with focus on form.

12.4.3. *Tests*

The experimental group and the control group were pre- and post-tested on their knowledge of locative inversion and SV/VS orders in English by means of the same speeded acceptability judgement tasks used in the studies presented in chapters 9 and 10. As described in detail in chapter 9, the task which focused on SV/VS orders had a 2x2 design crossing the following two variables: (i) *type of discourse context* – sentence focus context *vs.* narrow subject focus context – and (ii) *type of word order* – SV *vs.* VS. On the other hand, the task which concentrated on the types of intransitive verbs allowed in locative inversion tested the following conditions: (i) unaccusatives of existence and appearance, (ii) unaccusatives of change of state, (iii) redundant unergatives, and (iv) non-redundant unergatives. Both tasks included 6 items per condition and as many fillers as experimental items (for further details, cf. chapters 9 and 10).

Speeded acceptability judgement tasks were used in the present study for three reasons. First, in the GenSLA studies presented in chapters 9 and 10, these tasks were the ones that best captured L2ers' difficulties with respect to VS orders and locative inversion. Second, recent psychometric studies by Ellis (2005), Ellis et al. (2009) and Bowles (2011) validated speeded acceptability judgement tasks (in their terms, timed grammaticality judgement tasks) as measures of implicit knowledge (for an overview, cf. Ellis, 2015), which means that this type of task is a useful tool to determine whether or not explicit instruction results in implicit knowledge. Lastly, the fast pace of the task places extra load on L2ers' processing resources and can, consequently, lead to processing inefficiencies in the linguistic areas that are more sensitive to cognitive load, like the syntax-discourse interface. For this reason, as demonstrated in chapters 10 and 11, speeded acceptability judgement tasks can capture interface problems which other tasks are unable to detect. This type of task is, therefore, ideal for testing whether explicit instruction can lead L2ers' to reduce or even eliminate their optionality with regard to properties involving the syntax-discourse interface.

12.4.4. *Data analysis*

In this study, statistical analyses were conducted on R using linear mixed-effects models with crossed random effects for subjects and items. In the analyses of the data on SV/VS orders, the variables which were modelled as fixed effects were the

following: “discourse context”, “word order”, “group”, “test” and “proficiency”. In the analyses of the data on locative inversion, the fixed effects were the variables “type of verb”, “group”, “test” and “proficiency”. Following Linck and Cunnings (2015), analyses included random intercepts for subjects and items, by-subject random slopes for all within-subjects variables and their interaction (i.e., “word order”, “discourse context” and “test” in the case of the task on SV/VS orders, and the variables “type of verb” and “test” in the case of the task on locative inversion), and by-item random slopes for group (in between-group analyses only). Following standard practice (cf. Gelman & Hill, 2007; Linck & Cunnings, 2015), a fixed effect was considered significant if the absolute *t* value was greater than or equal to 2.00. Whenever there were doubts as to whether a *t* value was marginally significant, the *p*-value was estimated from the *t* distribution using the following formula proposed by Baayen (2008: 248):

(1) 2 * (1 - pt(abs(X), Y - Z))

Here, X is the *t* value, Y the number of observations and Z the number of fixed effects parameters. Following standard practice, a *p*-value was deemed marginally significant when its value was greater than 0.05 and less than 1.

12.5. Results

The results of the experimental and control groups on the tests that were administered before and after the instructional treatment are described in the present section, which is divided into two parts: the first (sub-section 12.5.1) focuses on SV/VS orders, while the second (sub-section 12.5.2) concentrates on locative inversion.

12.5.1. *SV/VS orders*

The pre-test revealed that, prior to instruction, there were no significant differences between the experimental and control groups with regard to the acceptability of SV and VS orders (SV: estimate=0.16667, SE=0.22905, *t*=0.728; VS: estimate=-0.364583, SE=0.365297, *t*=-0.998).[252] Both L2 groups accepted SV orders in sentence and narrow focus contexts to a native-like level (experimental group *vs.* English controls: estimate=0.000641, SE=0.198965, *t*=0.01; control group *vs.* English controls:

[252] Linear mixed-effects analyses showed no effect of discourse context and no interaction between group and context in the comparisons between the experimental and control groups with regard to SV and VS orders (*t*s≤-1.101).

estimate=0.10897, SE=0.20431, *t*=0.53), but tended to perform non-target-like with respect to VS orders (experimental group *vs.* English controls: estimate=-1.6814, SE=0.2531, *t*=-6.643; control group *vs.* English controls: estimate=-1.3814, SE=0.2972, *t*=-4.648).[253] As shown in fig. 12.1, while the English controls' mean acceptance rate was 1.72 for VS in narrow focus contexts and 1.70 for VS in sentence focus contexts, the experimental and control groups' mean acceptance rates for these word orders ranged from 3 to 3.5, which indicates that "free" inversion was still licensed in their interlanguages.

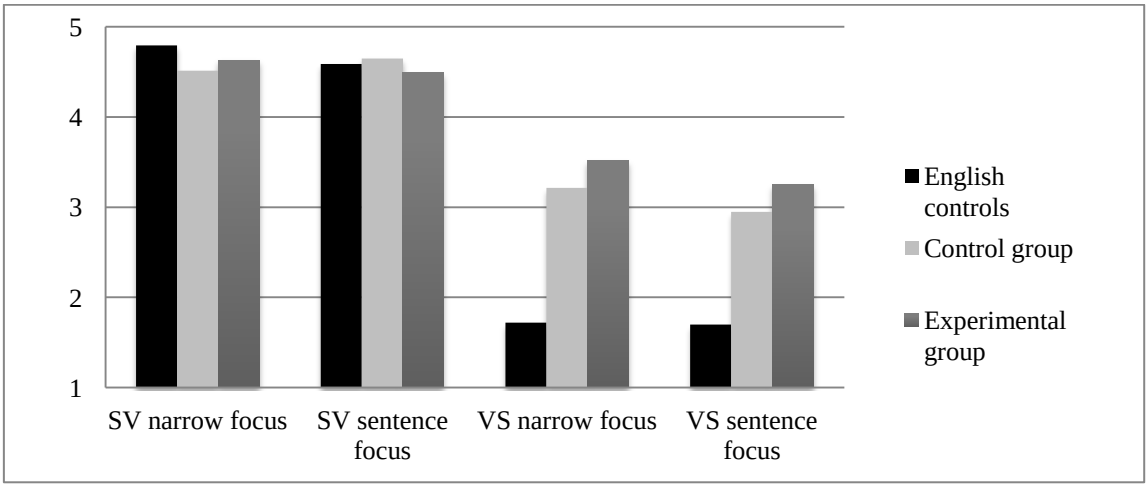


Fig. 12.1. *Mean acceptance rates of SV and VS orders on the pre-test (scale 1-5)*

As illustrated in fig. 12.2, the control group's acceptance rates of "free" inversion remained practically unchanged from the pre-test to the post-tests (pre-test *vs.* post-test 1: estimate=0.03125, SE=0.22316, *t*=0.140; pre-test *vs.* post-test 2: estimate=0.28125, SE=0.19351, *t*=1.453)[254], suggesting no improvement over time in the absence of explicit instruction. In contrast, the performance of the experimental group changed considerably on post-testing. In fact, this group's acceptance rates of VS orders dropped significantly on the first post-test (pre-test *vs.* post-test 1: estimate=-1.49306, SE=0.20399, *t*=-7.319), reaching a native-like level in sentence focus contexts (experimental group *vs.* English controls: estimate=-0.2038, SE=0.2810, *t*=-0.725) but not in narrow focus contexts (experimental group *vs.* English controls: estimate=-1.2988, SE=0.2516, *t*=-5.162). On the second post-test, the acceptance rates rose

[253] No effect of discourse context and no interaction between group and context were found in the statistical comparisons between the English controls and the experimental and control groups (all *t*s≤-1.373).

[254] No effect of discourse context and no interaction between group and context were found in these statistical analyses (all *t*s≤-1.117).

considerably in all discourse contexts (post-test 1 *vs.* post-test 2: effect of test − estimate=0.7708, SE=0.3308, *t*=2.330; no effect of context and no test-context interaction − *t*s≤-1.434). On this occasion, the experimental group performed in the same way it did prior to instruction (pre-test *vs.* post-test 2: no effect of test − estimate=-0.7222, SE=0.4387, *t*=-1.646[255]; no effect of context and no test-context interaction − *t*s≤-1.123). Consequently, there continued to be substantial differences between this group and the native speaker controls regarding the acceptability of VS in narrow and sentence focus contexts (effect of group: estimate=-1.03974, SE=0.31441, *t*=-3.307; no effect of context and no group-context interaction − *t*s≤ -0.704).

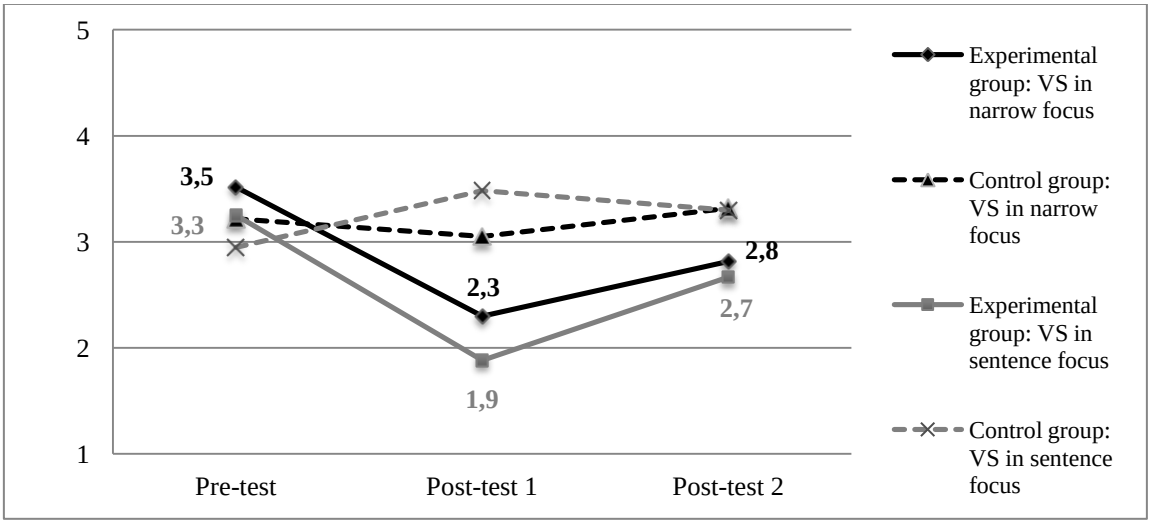


Fig. 12.2. *Mean acceptance rates of "free" inversion (scale 1-5)*

Interestingly, linear mixed-effects analyses of the experimental group's results revealed a significant interaction between test and proficiency in the comparison between the pre-test and the first post-test (estimate=-2.01389, SE=0.40798, *t*=-4.936), as well as in the comparison between the pre-test and the second post-test (estimate=1.2083, estimate=0.6616, *t*=1.826[256]). In fact, when we consider the results of C1 and B2 learners in isolation, as in figures 12.3 and 12.4, it becomes clear that they responded differently to explicit instruction, despite exhibiting similar patterns of behaviour with regard to "free" inversion prior to instruction (C1s *vs.* B2s at the pre-test: estimate=0.2639, SE=0.3890, *t*=0.678).

[255]This *t* value corresponds to the following *p* value: *p*=0.1011119.
[256] This *t* value corresponds to the following marginally significant *p* value: *p*=0.06913009

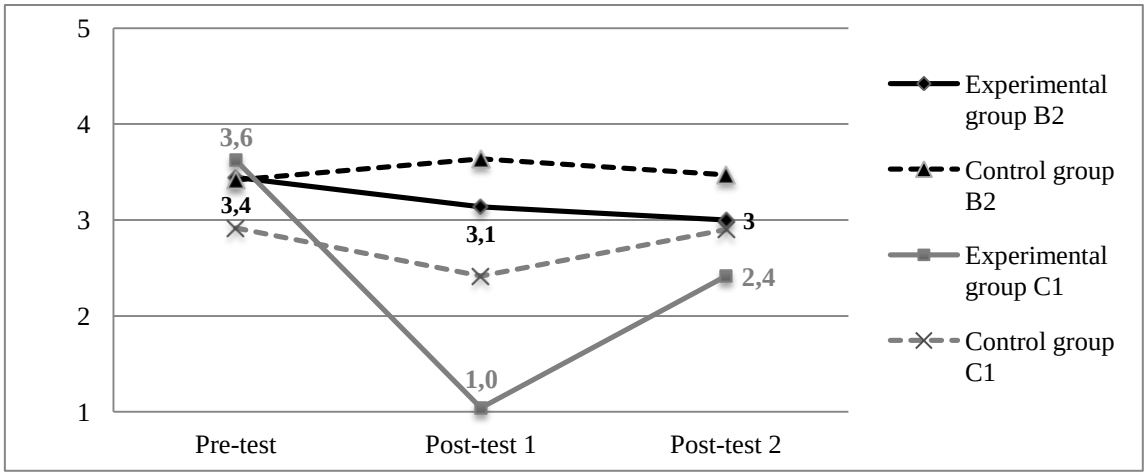


Fig. 12.3. *Mean acceptance rates of "free"inversion in narrow focus contexts (scale 1-5)*

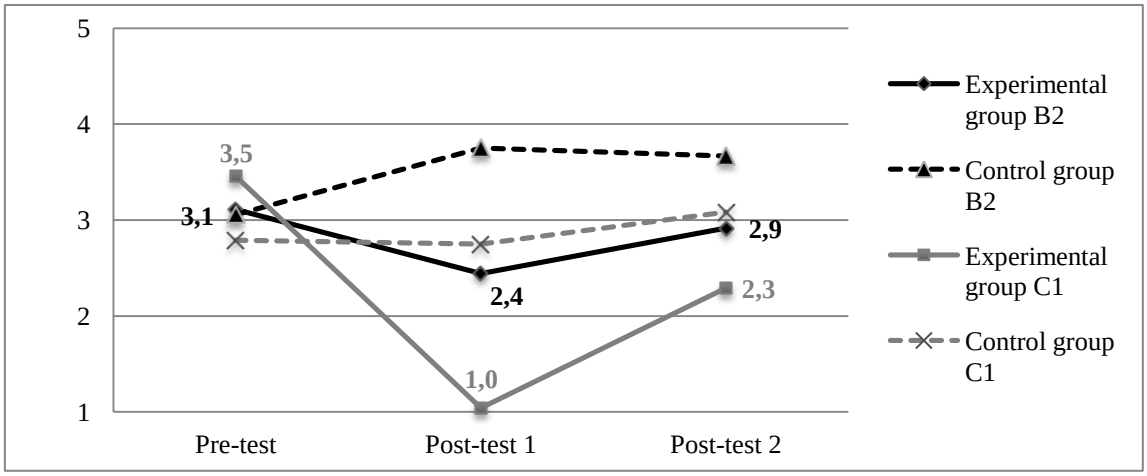


Fig. 12.4. *Mean acceptance rates of "free"inversion in sentence focus contexts (scale 1-5)*

As shown in figures 12.3 and 12.4, on pre-testing, the C1 and B2 groups' mean acceptance rates of VS orders ranged from 3.1 to 3.6. In the case of the C1 group, the acceptance rates dropped dramatically (to an average of 1) on the first post-test (pre-test *vs.* post-test 1: effect of test − estimate=2.50000, SE=0.24464, *t*=10.219; no effect of context and no test-context interaction − *t*s≤-0.328) and remained relatively low (2.3/2.4) on the second post-test, in spite of a marginal increase between the two post-tests (effect of test: estimate=1.3750, SE=0.7686, *t*=1.789[257]; no effect of context and no test-context interaction: *t*s≤-0.796). Crucially, C1 learners' performance on the last post-test was significantly better than their performance at the time of the pre-test (effect of test: estimate=1.12500; SE=0.27176, *t*=4.140; no effect of context and no test-context interaction: *t*s≤-0.639). This fact, together with the fact that the C1 group's mean

[257] This *t* value corresponds to the following marginally significant *p* value: *p*=0.07687049.

acceptance rates of VS orders were under 2.5 on the second post-test, suggests that this group came to know that "free" inversion is not a possible word order in English. Since the C1 learners who were part of the control group made no progress between the pre-test and the second post-test (estimate=0.2708, SE=0.2740, *t*=0.989), it can be safely concluded that explicit instruction was the cause of the improvement observed in the performance of the C1 learners who were part of the experimental group.

Contrary to what happened at the C1 level, at the B2 level, explicit instruction did not have lasting effects (pre-test vs. post-test 2: estimate=0.3194, estimate=0.3443, *t*=0.928). Even immediately after the teaching intervention, there were neither significant improvements with regard to VS in sentence focus contexts (estimate=0.6667, SE=0.4037, *t*=1.651[258]) nor with regard to VS in narrow focus contexts (estimate=0.3056, SE=0.2868, *t*=1.065). Like the B2 learners who were part of the experimental group, those who formed part of the control group did not make any progress between the pre-test and the final post-test (estimate=-0.33333, SE=0.32350, *t*=-1.030).

In brief, the effectiveness of explicit instruction on SV/VS orders varied according to the level of proficiency of the participants. On the one hand, in the case of the participants who were still at the B2 level, instruction had no significant effects in the short and long terms. On the other hand, in the case of the participants who were at the C1 level, instruction helped them significantly reduce their acceptance of the Portuguese word order that is ungrammatical in English.

12.5.2. *Locative inversion*

Let us now examine how the experimental and control groups performed with respect to the distribution of intransitive verbs in English locative inversion. As illustrated in fig. 12.5, on pre-testing, these groups behaved alike (estimate=0.02778, SE=0.26075, *t*=0.107): they accepted locative inversion with redundant unergative verbs and unaccusative verbs of existence and appearance as much as the native speaker controls did (experimental group *vs.* English controls: estimate=0.3038, SE=0.1955, *t*=1.55[259]; control group *vs.* English controls: estimate=0.1122, SE=0.1825, *t*=0.61)[260],

[258] Note that this *t* value corresponds to a *p* value of 0.1031554.
[259] This *t* value corresponds to the following non-significant *p* value: *p*=0.1218755
[260] No effect of verb and no interaction between group and verb were found in these statistical comparisons (all *t*s≤-0.667).
[260] This *t* value corresponds to the following *p* value: *p*=0.1011119.

but failed to reject this type of inversion with the verbs that are incompatible with it, namely non-redundant unergative verbs and unaccusative verbs of change of state (experimental group *vs.* English controls: estimate=-0.5814, SE=0.2729, *t*=-2.131; control group *vs.* English controls: estimate=-0.5981, SE=0.3043, *t*=-1.965[261]).[262] 80% of the L2ers in the experimental group and 50% of the L2 controls had median[263] acceptance rates above 3 across all conditions, which means that they accepted (albeit to varying degrees) locative inversion with all the verb classes tested. Crucially, this level of optionality was not found in the group of English monolingual speakers. Only 8% of these speakers had median acceptance rates greater than 3 across conditions. To determine whether these differences were statistically significant, participants' answers were codified as 1= 'has a median >3 across conditions' and 0= 'has a median ≤ 3 across conditions' and subject to a mixed logit analysis (with random effects for subject). This analysis confirmed that the experimental and control groups significantly diverged from the group of English monolingual speakers on the pre-test (experimental group *vs.* English controls: estimate=24.8705, SE=9.5156, *p*=0.00896; control group *vs.* English controls: estimate=2.4849, SE=0.9815, *p*=0.0113).

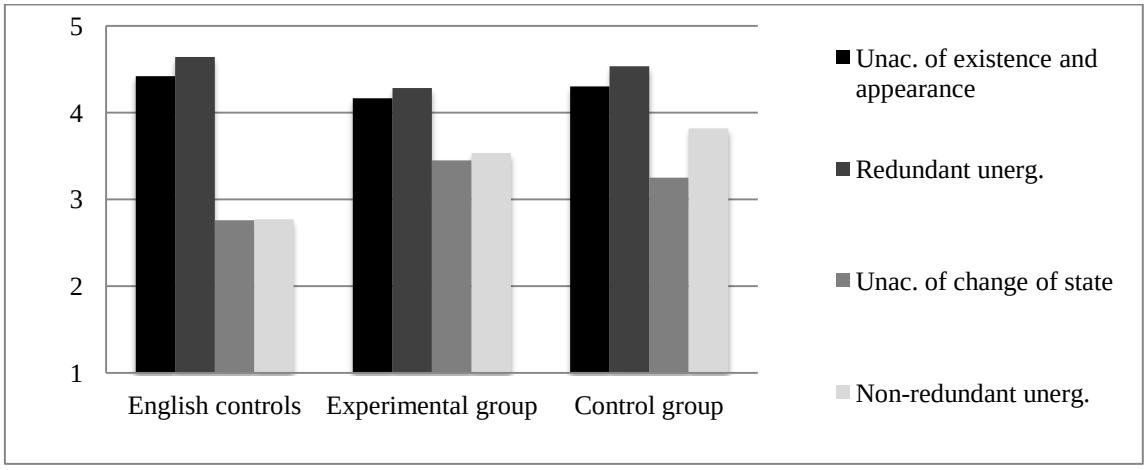


Fig. 12.5. *Mean acceptance rates of locative inversion on the pre-test (scale 1-5)*

On post-testing, the control and experimental groups behaved in a different fashion regarding their problem area: the acceptability of locative inversion with change-of-state unaccusatives and non-redundant unergatives. As fig. 12.6 shows, the control group's acceptance rates marginally increased from the pre-test to the first post-

[261] This *t* value corresponds to the following marginally significant *p* value: *p*=0.05005911
[262] No effect of verb and no interaction between group and verb were found in these statistical comparisons (all *t*s≤-0.935).
[263]The median is a measure of central tendency which shows what the "likeliest" response of a participant is.

test (estimate=0.3090, SE=0.1726, *t*=1.790[264]) and then reverted to pre-test levels on the second post-test (pre-test *vs.* post-test 2: estimate=0.3264, SE=0.2247, *t*=1.453[265]), which indicates that there was no improvement over time.[266] Unlike the control group, the experimental group improved significantly on the first post-test (estimate=-0.9653, SE=0.1815, *t*=-5.318)[267], demonstrating native-like knowledge of the unacceptability of locative inversion with change-of-state unaccusative verbs and non-redundant unergative verbs (English controls *vs.* experimental group: estimate=0.235, SE=0.3212, *t*=0.732). Nevertheless, this knowledge was not retained in the long term (post-test 1 *vs*. post-test 2: estimate=-0.7361, SE=0.2678, *t*=-2.748). A linear mixed-effects analysis of the experimental group's results on the pre-test and on the delayed post-test revealed no effect of test (estimate=0.22917, SE=0.38497, *t*=0.595), no effect of verb (estimate=0.09722, SE=0.28823, *t*=0.337), no effect of proficiency (estimate=-0.38194, SE=0.47695, *t*=-0.801), no interaction between test and verb (estimate=-0.08333, SE=0.30380, *t*=-0.274), and no interaction between test and proficiency (estimate=-0.04167, SE=0.76999, *t*=-0.054). This analysis, thus, suggests that, on the second post-test, the whole experimental group, including the sub-group of L2ers who were at the C1 level, reverted to its pre-instructional behaviour. Not surprisingly, on this post-test, the experimental group continued to diverge from the native speaker baseline group. While, in the former group, 60% of the participants accepted locative inversion with all the verb classes tested, in the latter group, only 8% of the participants displayed this optional behaviour. This difference is statistically relevant (estimate=2.8904, SE=0.9984, *p*=0.00379).[268]

[264] This *t* value corresponds to the following marginally significant *p* value: 0.07473044
[265] This *t* value corresponds to the following non-significant *p* value: 0.1475465
[266] No effect of verb and no interaction between test and verb were found in these statistical comparisons (all *t*s≤-1.115).
[267] No effect of verb and no interaction between test and verb were found in this statistical comparison (all *t*s≤-1.301).
[268] Participants' answers were codified as 1= 'has a median >3 across conditions' and 0= 'has a median ≤ 3 across conditions' and subject to a mixed logit analysis (with random effects for subject).

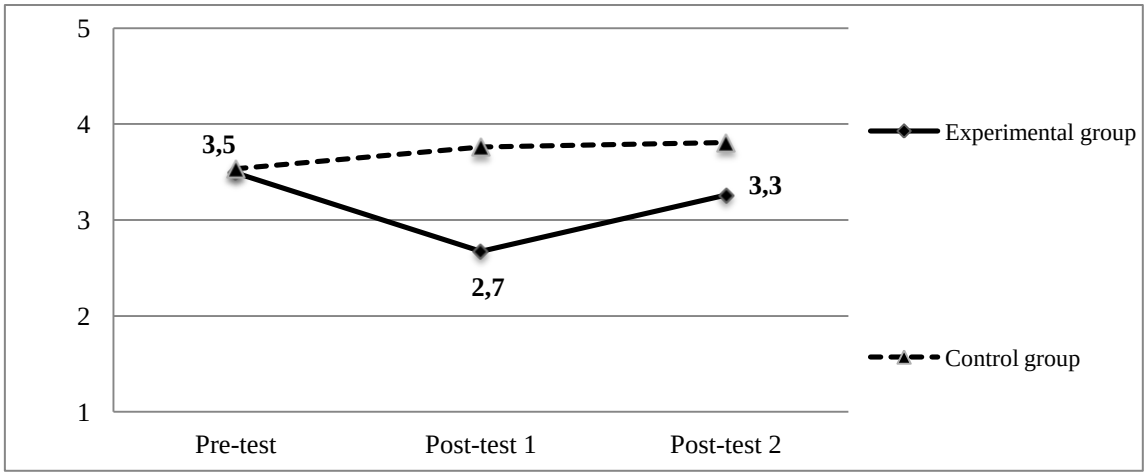


Fig. 12.6. *Mean acceptance rates of locative inversion with change-of-state unaccusative verbs and non-redundant unergative verbs (scale 1-5)*

Even though linear mixed-effects analyses detected no effect of proficiency in the comparison of the experimental group's results in the pre-test and in the second post-test, this variable was found to have a significant effect in the comparison between the pre-test and the first post-test (effect of proficiency: estimate=-1.1458, SE=0.4691, *t*=-2.443; test-proficiency interaction: estimate=-1.4861, SE=0.3630, *t*=-4.094), as well as in the comparison between the first and second post-tests (effect of proficiency: estimate=-1.1250, SE=0.4636, *t*=-2.427; test-proficiency interaction: estimate=-1.5278, SE=0.5357, *t*=-2.852). For this reason, it is important to examine the experimental group's results per level of proficiency.

As illustrated in fig 12.7, prior to instruction, the C1 and B2 learners who formed part of the experimental group exhibited a similar behaviour with regard to the acceptability of locative inversion with change-of-state unaccusative verbs and non-redundant unergative verbs (C1s *vs.* B2s: estimate=-0.40278, SE=0.58945, *t*=-0.683). However, on the tests that took place after the instructional intervention, their performance differed significantly in this respect. The C1 learners' acceptance rates dropped considerably from the pre-test to the immediate post-test (estimate=-1.7083, SE=0.2777, *t*=-6.151), but increased on the delayed post-test (post-test 1 *vs.* post-test 2: estimate=-1.5000, SE=0.6133, *t*=-2.446), reaching a level similar to that of the pre-test (post-test 2 *vs.* pre-test: estimate=-0.2083, SE=0.7649, *t*=-0.272).[269] In contrast, in the B2 group, acceptance rates remained practically unchanged on all test occasions (pre-test *vs.* post-test 1: estimate=-0.2222, SE=0.2579, *t*=-0.862; post-test 1 *vs.* post-test

[269] No effect of verb and no interaction between test and verb were found in these statistical comparisons (all *t*s≤0.920).

2: estimate=-0.02778, SE=0.18868, *t*=-0.147; pre-test *vs.* post-test 2: estimate=-0.2500, SE=0.3813, *t*=-0.656).[270]

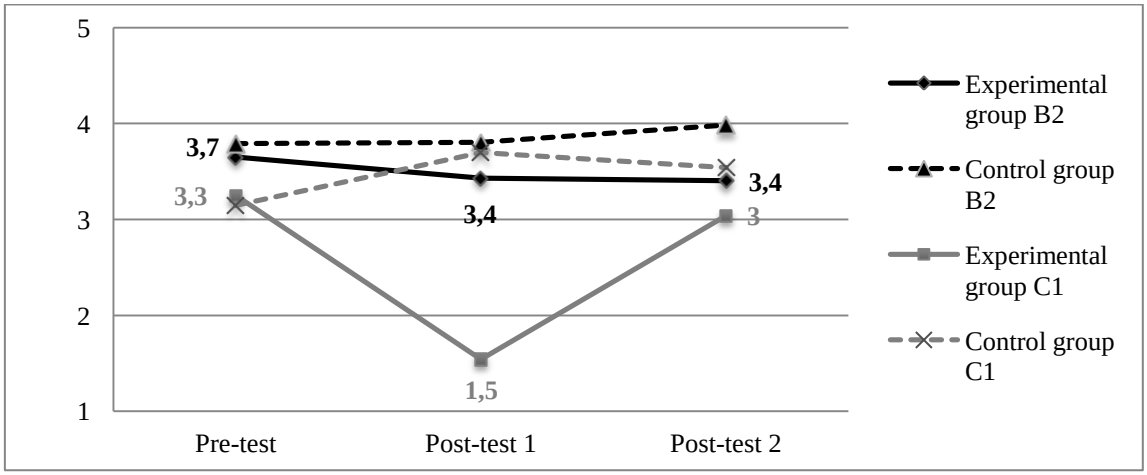


Fig. 12.7. *Mean acceptance rates of locative inversion with change-of-state unaccusative verbs and non-redundant unergative verbs per level of proficiency (scale 1-5)*

In sum, as in the experiment on "free" inversion, in the present experiment, the impact of explicit instruction varied according to the level of proficiency of the L2ers. In the case of the L2ers who were at a B2 level, it did not have any statistically significant effects. In contrast, in the case of the L2ers who were at a C1 level, instruction resulted in gains, but only in the short term. Put differently, explicit instruction failed to have any lasting effects on L2ers' behaviour with respect to the distribution of intransitive verbs in English locative inversion.

12.6. Discussion

Overall, the results of the present study indicate that explicit grammar instruction can result in durable gains, but its effects vary substantially even when the length and type of instructional intervention are held constant. One of the factors that significantly influence the effectiveness of instruction in this study is the type of target structure. The other factor that is here proved to affect the success of instruction is the timing.

Regarding the first factor, results show that, just as we predicted, when the target of instruction is a property of SVI that involves the syntax-discourse interface, as is the

[270] No effect of verb and no interaction between test and verb were found in these statistical comparisons (all *t*s≤-1.113).

case of the distribution of intransitive verbs in locative inversion, instruction does not bring about any changes in L2ers' performance in the long term, at least on measures of implicit knowledge that can capture processing inefficiencies like the one used in the present study. In contrast, when explicit instruction is directed at a syntactic property like the ungrammaticality of "free" inversion in English, it can have lasting effects, even on measures of implicit knowledge that tap into processing. Considering that various GenSLA studies, including the ones reported on in chapters 9 to 11, have shown that syntax-discourse properties are significantly more problematic to acquire than (lexical-) syntactic properties, the results of the present study suggest that the effectiveness of explicit instruction may depend on the extent to which the particular linguistic domain(s) involved in the target structure are problematic in L2 acquisition. More specifically, explicit instruction may be more effective when it targets an area of language that poses developmental but not permanent problems, such as narrow syntax, than when it targets the area which has been identified in the present thesis and in other recent GenSLA studies (see, in particular, Belletti et al., 2007; Sorace, 2011c; Sorace & Filiaci, 2006) as a locus of persistent optionality in an L2 – the syntax-discourse interface.

In addition to suggesting that the effectiveness of explicit instruction depends on the particular domain of language or interface between domains at which the target structure is situated, the results of the present experimental study bring into question two claims that have been made in recent work on instructed L2 acquisition. One of them is Spada and Tomita's (2010) claim that explicit instruction has more positive effects on complex language features than on simple(r) features (recall that, as we have proven in chapters 9 and 10, the syntax-discourse properties of locative inversion are more complex for Portuguese L2ers of English than "free" inversion). The other is the claim made by various GenSLA researchers (e.g., Rothman, 2010; Valenzuela & McCormack, 2013; VanPatten & Rothman, 2015; Whong et al., 2014) that the syntax-discourse interface is one of the areas where explicit instruction may be most beneficial for L2ers.

A caveat is in order here. It must be emphasised that, in this study, the experimental group was instructed on locative inversion for a very short period of time (around 90 minutes) and that there was subsequently no follow-up instruction on this topic, nor any further feedback on errors. Thus, explicit instruction might have failed to

produce lasting effects not because it is impossible for instruction to bring about changes in L2ers' performance at the syntax-discourse interface, but rather because of lack of suitable follow up or subsequent focus on locative inversion. It is, however, undeniable that the current results indicate that syntax-discourse properties are, at the very least, less permeable to instructional effects than "narrow" syntactic properties.

Let us now consider the factor of timing. The results of the present study reveal that, at a B2 level, L2ers do not benefit from explicit instruction on English SVI, regardless of whether the target property involves the syntax-discourse interface or narrow syntax. At a C1 level, in contrast, explicit instruction results in gains in all cases. However, the gains are only maintained beyond the immediate teaching period when the target property is strictly syntactic. These results clearly show that the stage of L2 development at which the instructional intervention occurs significantly influences the effectiveness of instruction. Now, the question is: why is it so?

There are, at least, two logically possible explanations for the patterns of behaviour displayed by the C1 and B2 learners who took part in this study. One possible explanation is that L2ers' level of proficiency may mediate the effects of explicit instruction and, for some reason, only those who are more advanced may be able to benefit from this instruction, at least when the instructional period is short. Another possible explanation is that the particular structures targeted by instruction in these experiments may be beyond the "developmental reach" of B2 learners, but not of C1 learners. Recall that, as shown in chapters 9 and 10, "free" inversion is typically eliminated from the interlanguages of Portuguese L2ers of English very late, at a near-native level, and locative inversions with change-of-state unaccusatives and non-redundant unergatives never disappear completely, though L2ers tend to have target-like representations of the distribution of verbs in this type of inversion by an advanced level. Thus, if we assume, following Pienemann (1984, 1989), that L2ers are only developmentally ready to acquire a property of stage x when they are at stage x-1,[271] then we may hypothesise that Portuguese L2ers of English are only developmentally ready to acquire that "free" inversion is ungrammatical in the target language at a (low)

[271] It must be noted that Pienemann's (1984, 1989) hypothesis, which became known as the Teachability Hypothesis, was originally formulated to capture how teaching affects the fixed sequences of developmental stages that L2ers traverse in the acquisition of certain grammatical properties, such as word order in German. So, in this hypothesis, the term "stage" is used in the sense of stage in the sequence of development of a particular grammatical property. However, it does not seem to be unreasonable to extend the scope of this hypothesis to include overall stages of L2 development.

advanced level of proficiency. Likewise, we may hypothesise that locative inversion is closer to L2ers' "developmental reach" at a (low) advanced level than at an intermediate level. Since there is plenty of evidence in the literature that developmental readiness greatly influences the effectiveness of explicit grammar instruction (e.g., Ellis, 1989; Mackey & Philp, 1998; Pienemann, 1984, 1989), and some evidence that low-proficiency L2ers can benefit from explicit instruction as much as and sometimes even more than high-proficiency L2ers (e.g., Gass, Svetics, & Lemelin, 2003), I tentatively propose that, in the present study, the differences between C1 and B2 learners' results stem from differences in their developmental readiness. Further research is, however, needed so that firmer conclusions can be reached on this issue.

While it is clear that explicit instruction resulted in gains for C1 learners, it is not obvious whether it triggered changes in their underlying linguistic competence. In the case of "free" inversion, the robustness of the effects of explicit instruction on measures of implicit knowledge even after five weeks suggests that this instruction triggered changes in L2ers' underlying linguistic competence. In the case of locative inversion, in contrast, the fact that L2ers' immediate gains were lost five weeks after the instructional intervention indicates that instruction did not affect their competence nor improved their efficiency in the real-time integration of syntactic and external information. Probably, instruction only brought about explicit knowledge about the verbs which can(not) undergo locative inversion in English.

It is important to note that, although the type of task used as measure of learning in the present work – the speeded acceptability judgement task – has been validated as a measure of implicit knowledge in various psychometric studies (cf. Bowles, 2011; Ellis, 2005, 2015; Ellis et al., 2009), explicit knowledge may have been used in the tasks which were administered immediately after the instructional intervention because, at that time, this knowledge could be so vividly present in L2ers' memory that they could be able to access and use it relatively fast and without much effort. The same is unlikely to have happened on the delayed post-tests that took place five weeks after the intervention. This is because of two reasons. The first is that explicit knowledge, like other declarative facts, is easily forgotten. The second is that even if part of what L2ers had consciously learned was still in their declarative memory, accessing and using this explicit knowledge would probably be much more consuming in terms of time and attentional resources at the time of the delayed post-test than it had been immediately

after the instructional treatment, that is, when the knowledge was still "fresh" in memory. For this reason, L2ers were unlikely to have enough time and attentional resources at their disposal to consistently access and use explicit knowledge in the speeded acceptability judgement tasks that were administered five weeks after the instructional treatment. Despite these facts, in order to be completely sure as to whether explicit instruction on the ungrammaticality of "free" inversion had lasting effects on interlanguage grammars, we would need to have another post-test, say, a year after instruction.[272] This will be done in future research.

Even though our research findings strongly suggest that explicit instruction about SV/VS orders positively affected C1 learners' linguistic competence, it is not necessarily the case that these findings pose a challenge for the non-interface position of Schwartz (1986, 1993) and Krashen (1982). This is because the participants received instruction that simultaneously included explicit negative evidence, explicit positive evidence and primary linguistic data. Consequently, on the basis of the data at our disposal, it is impossible to determine which particular aspect(s) of the instructional intervention led to L2ers' gains. We cannot rule out the possibility that what triggered the changes in interlanguage grammars was the naturalistic input that L2ers received in the form of authentic texts and examples, as Schwartz would predict (1986, 1993). The relative effects of each type of evidence on interlanguage grammars, therefore, need to be investigated in future research.

In short, from the results of the present study, three (tentative) conclusions can be drawn. First, explicit grammar instruction with positive and negative evidence can bring about durable changes in L2ers' interlanguages. Second, the timing of instruction significantly influences its effectiveness probably due to factors related to developmental readiness. Finally, the effectiveness of explicit instruction may vary according to the linguistic domain(s) or interface(s) that the target structure involves. It seems that the area that has been found to be a locus of permanent optionality in L2 acquisition (cf. chapters 7, 10 and 11) – the syntax-discourse interface – is less permeable to instructional effects than domains like narrow syntax, which does not pose persistent acquisition problems. These results are thus consistent with the proposal of the IH that there is a principled difference between the linguistic phenomena that

[272] Note that there are studies like Akakura's (2012) that conclude that explicit instruction has an effect on implicit language knowledge exclusively on the basis of post-tests that tap into implicit knowledge and take place five or six weeks after the instructional intervention.

depend on narrow syntax and the phenomena that involve the coordination of syntactic information with information external to the faculty of language, such as discourse information. The current results suggest that, in addition to differing with respect to their acquirability, these phenomena differ in their permeability to instructional effects.

Given the small scale of the present study and the limited number of properties tested, further teaching intervention research is needed to determine, on more solid grounds, whether and how the effectiveness of explicit instruction varies according to the linguistic domain(s) or interface(s) that the target structure involves. Further research is also needed to determine whether explicit instruction can bring about any long-term changes at the syntax-discourse interface and, if so, what type of changes can occur. Based on the IH and on the research findings reported on in chapters 10 and 11, I predict that explicit instruction can never result in the complete elimination of L2ers' optionality with respect to syntax-discourse structures, regardless of its length and type. At best, instruction may help L2ers develop native-like mental representations and reduce their optionality to the lowest level of the scale of optionality proposed in chapter 11.

12.7. Implications for teaching

By helping us to better understand how explicit grammar instruction affects L2 acquisition, the present study can shed new light on a central question which is situated at the interface between the fields of L2 pedagogy and L2 acquisition: how can language teaching best ensure successful L2 grammar acquisition? While there is a broad consensus that Communicative Language Teaching, together with Task Based Learning, are the most effective approaches to L2 teaching and learning, and two of the approaches that are most compatible with what is known about the process of L2 acquisition (cf. Whong, 2013b), the role of explicit grammar instruction in Communicative Language Teaching is still a much-debated issue among theorists and practitioners (for an overview, see Rees-Miller, 2017). Should grammar be explicitly taught, or will L2ers acquire it as they go along? If grammar is taught, what particular language features should be taught? And how should they be taught? These are some of the questions that are still far from settled and which the results of the present research may help answer.

Our research findings indicate that explicit grammar instruction must have a place in the L2 classroom due to two reasons. The first is that explicit grammar instruction can have lasting effects on interlanguage grammars, at least when it combines naturalistic input, explicit positive and negative evidence and practice, as in the present experimental study. The second reason is that some linguistic properties are not acquired by most L2ers in the absence of explicit grammar instruction. The ungrammaticality of "free" inversion in English is a case in point. As shown in chapter 9, generally speaking, the possibility of "free" inversion is only naturally eliminated from L1 EP-L2 English grammars at a near-native level. Since only a minority of L2ers attain this level (Sorace, 2003), this means that most Portuguese L2ers of English will never "naturally" converge with the target language in this respect. Crucially, as shown in section 12.5.1, when these L2ers receive appropriate explicit instruction, they come to know that "free" inversion is ungrammatical in English at earlier points in their development. Together, these results unequivocally disconfirm the claim made by some influential L2 teaching theorists (e.g., Krashen & Terrell, 1988) that explicit grammar instruction is neither necessary nor beneficial for L2ers.

Although explicit instruction is potentially beneficial, it is not effective under all circumstances. Our research findings demonstrate that there are, at least, two factors that moderate the effectiveness of this type of instruction and, consequently, need to be taken into account by L2 teachers and material designers: (i) the timing of instruction and (ii) the type of target structure. Timing has a significant impact on the success of instruction probably because L2ers only internalise those grammar features that they are developmentally ready to acquire. In line with previous research by Pienemann (1984, 1989), Ellis (1989), and Mackey and Philp (1998), among others, the results of the present study suggest that L2ers are only ready to acquire a property that is "naturally" acquired at stage x when they are at stage x-1. This means that if it is known that a property P is acquired at a near-native level, ideally, teachers should only teach P at an advanced level, as this is the moment when their investment in terms of time and effort is most likely to pay off. The difficulty with this solution is that most of the research that currently exists about the L2 acquisition of particular grammatical features was conducted within a GenSLA framework and is generally unknown to language teaching theorists and practitioners. There is, therefore, a strong need for more articulation between the fields of GenSLA and language pedagogy.

With respect to the type of structure, our research findings suggest that the structures which involve linguistic interfaces that are a locus of persistent optionality (e.g., the syntax-discourse interface) are much less likely to benefit from explicit grammar instruction than the ones which involve more readily acquirable domains/interfaces (e.g., narrow syntax). Due to these facts, the main focus of grammar instruction should be on the linguistic domains or interfaces that are easier to acquire (e.g., narrow syntax, syntax-semantics interface). Only after everything else has been acquired should teachers concentrate on the most complex area for L2ers – the syntax-discourse interface. In this case, long teaching interventions may be needed for knowledge to be retained in the long term. Teachers should, however, be aware that L2ers may never become capable of performing monolingual-like at the syntax-discourse interface, regardless of the length and timing of explicit instruction. This is because L2ers' problems at this interface are thought to be, at least in part, a general effect of having two active languages in the mind (for details, cf. chapter 11). L2ers' persistent problems at the syntax-discourse interface are, therefore, a perfect example that no matter how good an L2er is, like any bilingual speaker, he/she cannot be and should not be expected to be like a monolingual speaker.

Besides suggesting that teachers should teach language features involving linguistic domains permeable to instruction when their learners are developmentally ready to learn them, the present study challenges a view shared by most twentieth-century theories of language teaching and learning (for an overview, cf. Cook, 2010; Hall & Cook, 2012), which is echoed in many of the most popular handbooks for teachers (for a review, cf. Ellis & Shintani, 2014: 226-228): the view that the L1 should play a very residual role in L2 classrooms.[273] The results of this study (and of the experiments reported on in chapter 9) suggest, contra this view, that the L1 can and should have a relevant role at least in L2 grammar teaching and learning.

In fact, the finding (reported in chapter 9) that a given L2 property can be problematic for native speakers of a language A and unproblematic for the speakers of language B indicates that teachers should take into account the L1 background of their

[273] The theoretical origin of this position is explained by Horst, White, and Bell (2010) as follows:

> Krashen's (1985) emphasis on exposing learners to comprehensible L2 input has had a profound influence on teacher education. In the last decades of the 20th century, earlier instructional approaches that relied on using the language to teach the language (e.g. the Direct Method) gained new credibility with the widespread endorsement of Krashen's ideas; as a result, a whole generation of ESL/EFL teachers has been schooled to scrupulously avoid L1 use in class (Gillis, 2007). Today, many teachers and teacher educators continue to worry (with reason) that using a little L1 might lead to using it a lot.

students to decide which grammatical properties need to be taught.[274] For example, when teaching English to native speakers of consistent NSLs like EP, teachers should devote some classroom time to activities on the obligatoriness of SV orders and overt subjects in English and on the consequent ungrammaticality of "free" inversion and null subjects. This is because the speakers of consistent NSLs typically struggle to master these phenomena in English due to persistent L1 influence (cf. the experimental evidence in chapter 9). Unfortunately, at present, most L2 curricula, textbooks and grammar books tend to overlook L1-specific problems such as this one and focus exclusively on grammar contents that are relevant to all L2ers. More attention to L1-specific problems is, therefore, needed in L2 grammar teaching.

Crucially, the fact that, in this experimental study, explicit instruction on L1-L2 differences was found to help L2ers overcome persistent negative transfer from the L1 constitutes clear evidence that, contrary to what is often assumed in language teaching theory, it is worth making L1-L2 comparisons in grammar teaching. Various types of activities can be used to invite L2ers to make such comparisons and notice the gap between the L1 and the L2 regarding a given grammatical property. These include: correcting samples of learner language containing transfer errors; identifying (transfer) errors in "bad" translations (e.g., machine translations) and discussing their causes; translating sentences from the L1 into the L2 and/or vice-versa; and making preference judgements between different translations of the same sentence.

While the present study is not the first to argue for the principled use of the L1 and translation activities in the L2 classroom (other studies include Cook, 2010; Hall & Cook, 2012; Horst et al., 2010; Pym, Malmkjær, & Gutiérrez-Colón, 2013; Widdowson, 2014; among others), it is one of the first to demonstrate that L1 use can facilitate L2 (grammar) acquisition. As far as I know, McManus and Marsden (2016) and J. White, Muñoz, and Collins (2007) are the few studies that argued for the use of the L1 in L2 teaching on the basis of evidence of its benefits to grammar acquisition. So far the

[274] Obviously, this can be difficult in the case of classes with L2ers from different L1 backgrounds. Nonetheless, it cannot be ignored that natural languages vary in a relatively circumscribed way. For this reason, L2ers from different L1 backgrounds may share the same L1-related difficulties. For example, the ungrammaticality of "free" inversion and null subjects in English is likely to be problematic not only for native speakers of EP, but also for speakers of Italian, Spanish or Greek, because these are all NSLs. So, in many (if not most) cases, it should be possible to divide a multilingual class into 3 or 4 groups of L2ers with different L1s but the same L1-related problem. This means that the teacher of a class with 20 students will not have to prepare 20 different tasks for a lesson on L1-specific problems. 3 or 4 different tasks may suffice.

advocacy made of L1 use has been, in most cases, based on the rejection of the monolingual native speaker as a model for language teaching and learning and the recognition that a more appropriate goal should be the "development of bilingual and bicultural identities and skills that are actively needed by most learners, both within the English-speaking countries and in the world at large" (Hall & Cook, 2012: 273). Though these theoretical arguments are pertinent, experimental evidence of the benefit of explicit L1-L2 comparisons in the L2 classroom constitutes a less disputable and hence more robust argument in favour of the principled use of the L1 in L2 teaching and learning.

In conclusion, as the present section clearly demonstrates, Applied GenSLA research has a lot to offer to L2 teachers. It can help them make more informed decisions about what to teach and what not to waste time on, establish when explicit grammar instruction is most likely to result in gains for their students and determine what type(s) of teaching approaches can be effective. In a few words, Applied GenSLA research can provide teachers with the information they need to be able to teach grammar in a way that is compatible with how L2ers acquire it.

Chapter 13

Conclusion

13.1. Introduction

The present thesis served three main aims: (i) to test the IH (Sorace, 2011c; Sorace & Filiaci, 2006) against a recent hypothesis that challenges its predictions about the end state of L2 acquisition − the LIH (Domínguez & Arche, 2014; Slabakova, 2015a); (ii) to determine whether explicit instruction can help L2ers overcome persistent problems in the domain of syntax and at the syntax-discourse interface; and (iii) to contribute to bridging the gap that currently exists between GenSLA and language pedagogy. In order to achieve these aims, the thesis investigated the acquisition of an understudied linguistic phenomenon – SVI in L2 English – by means of four inter-related experimental studies: (i) a study on "free" inversion, null subjects and their potential correlation in advanced and near-native English; (ii) a study on the acquisition of the syntax-discourse properties of locative inversion in advanced and near-native English; (iii) a study on the acquisition of lexical-syntactic and syntax-discourse properties of presentational *there*-constructions in advanced and near-native English; and (iv) a teaching intervention study which examined the impact of explicit instruction on the acquisition of narrow syntactic and syntax-discourse properties of SVI and whose results led to the proposal of concrete pedagogical implications. The results of each of these studies are summarised in section 13.2. Then, section 13.3 presents the conclusions of the thesis. Finally, in section 13.4, possible directions for future work are discussed.

13.2. Summary of the experimental studies

13.2.1. *Study 1: The syntax of subjects in advanced and near-native English*

Study 1 investigated the acquisition of subject overtness and placement by L1 EP – L2 English speakers and L1 French – L2 English speakers. The participants in this study were administered four experimental tasks: two untimed drag-and-drop tasks and two speeded acceptability judgment tasks. Results revealed that French speakers behave

native-like across all conditions and tasks, while EP speakers do not. At an advanced stage, they fail to reject VS orders, null expletives and [-animate] null subjects, but only in speeded tasks, which do not give them enough time to access their explicit knowledge of the English grammar. At a near native level, these speakers behave fully target-like across all conditions and tasks. At both advanced and near-native levels, the L2ers who allow "free" inversion in narrow focus contexts also admit null referential subjects, but not vice-versa. Similarly, all the L2ers who permit "free" inversion in sentence focus contexts also allow null expletive subjects, but not vice-versa. Thus, null subjects are a necessary but not sufficient condition for "free" inversion to be licensed.

The results obtained in this study indicate that the syntax of pre- and post-verbal subjects is fully acquirable in L1 NSL-L2 English pairings, just as predicted by the IH contra the Superset-Subset Hypothesis. Despite being acquirable, the syntax of subjects gives rise to significant developmental delays. The reason for these delays is proposed to be the misanalysis of forms like "it's" as inflectional forms without an overt expletive subject until fairly late stages of acquisition. Lending support to this proposal, a follow-up experiment found that intermediate and low-advanced Portuguese L2ers of English fail to reject the misuse of "it's" as a verbal form in sentences like "The food *it's* delicious and affordable".

13.2.2. *Study 2: Locative inversion in advanced and near-native English*

With a view to testing the predictions of the IH about the end state of L2 acquisition at the syntax-discourse interface against those of the LIH, study 2 investigated the acquisition of locative inversion in L1 EP – L2 English and L1 French – L2 English. This was considered an appropriate testing ground for the IH and the LIH, because locative inversion is a structure that involves the syntax-discourse interface, is infrequent in English and has similar constraints in English and French, but crucially not in EP. The participants in this study were exactly the same as in study 1. All of them were administered two untimed drag-and-drop tasks, two speeded acceptability judgement tasks and a syntactic priming task. These tasks tested two variables that involve the interface between syntax and discourse: (i) the type of intransitive verbs compatible with locative inversion and (ii) the type of discourse contexts where this inversion is admitted.

All groups of L2ers, including those whose L1 was similar to the L2 in the relevant respects, exhibited optionality regarding each of these variables in at least one type of task, just as predicted by the IH (contra the LIH). They displayed non-target behaviour mostly in the tasks that imposed higher demands on their processing resources, i.e., the tasks with time pressure. This fact was proposed to be a piece of evidence that these L2ers' problems were primarily (if not exclusively) situated at the level of processing. Given that the control group of English monolingual speakers distinguished the conditions which allow locative inversion from those which disallow it across all tasks, regardless of their processing load, it was concluded that the variability observed in L2ers' performance was not caused by the methodological options made in the study, but rather by real permanent differences between L2 and monolingual speakers of English.

In addition to showing that L2ers tend to display permanent optionality at the syntax-discourse interface, this study demonstrated that the degree of optionality they exhibit is moderated by the following variables: (i) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → more optionality), (ii) the level of proficiency in the L2 (lower level of proficiency → more optionality), and (iii) the similarity between the L1 and the L2 (L1≠L2 → more optionality).

13.2.3. *Study 3: Presentational* there*-constructions in advanced and near-native English*

Study 3 investigated the acquisition of presentational *there*-constructions, which are in some respects similar to locative inversion, but far less common than that type of SVI (Biber et al., 1999: 954-955). The main purpose of the study was to test the IH against the LIH. Its participants were the L2 and L1 speakers of English who had participated in studies 1 and 2. As part of study 3, participants were administered two untimed drag-and-drop tasks, three speeded acceptability judgement tasks and a syntactic priming task, which tested the types of overt expletives, the types of intransitive verbs and the types of discourse contexts compatible with *there*-constructions.

Results revealed that L2ers do not perform monolingual-like with respect to presentational *there*-constructions, even when they have the best attainable competence

in the L2 – the near-native competence. While English monolingual speakers are able to consistently distinguish the conditions which allow *there*-constructions from those which disallow them, L2ers behave differently according to the type of property under test. The property that is purely lexical-syntactic − i.e. the type of overt expletive admitted in expletive-associate inversion − does not generate problems to near-native L2ers. In contrast, the properties that involve the interface with discourse, namely the types of intransitive verbs and discourse contexts compatible with *there*-constructions, are problem areas for L2ers, even when they have a near-native level in the L2 and their L1 does not differ from the target language in the relevant respects. These results are in line with the IH and disconfirm the LIH.

As was the case in study 2, in this study, the degree of optionality displayed by L2ers at the syntax-discourse interface was moderated by four variables: (i) construction frequency (very rare construction → more optionality), (ii) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → more optionality), (iii) the level of proficiency in the L2 (lower level of proficiency → more optionality), and (iv) the similarity between the L1 and the L2 (L1≠L2 → more optionality). Unlike what happened in study 2, all groups of L2ers exhibited optionality regarding syntax-discourse properties both in untimed and timed tasks, except for the group of French near-native speakers of English. This is argued to be a piece of evidence that the groups of L2ers tested in study 3 had representational problems with respect to the discourse-conditioned properties of presentational *there*-constructions.

13.2.4. *Study 4: The impact of explicit instruction on the acquisition of the syntax of subject placement and syntax-discourse properties of locative inversion in L2 English*

From an instructed SLA perspective, the results obtained in studies 1 to 3 raise the following questions: (i) When a syntactic property is acquired very late due to persistent L1 influence, as is the case of the ungrammaticality of "free" inversion in L1 EP-L2 English, can explicit grammar instruction help L2ers converge with the target language at earlier points of their development? (ii) When a structure is a locus of persistent optionality in an L2, as is the case of syntax-discourse structures like locative inversion, can explicit grammar instruction lead to the elimination or, at least, to a significant decrease of optionality? To shed light on these questions, which remain

unanswered in the literature, study 4 investigated the impact of explicit instruction on the development of two types of linguistic phenomena that L2ers struggle to master in L1 EP-L2 English: a syntactic phenomenon – subject placement in English – and a syntax-discourse phenomenon – the types of intransitive verbs compatible with locative inversion.

The participants in this study were 20 Portuguese L2ers of English who were attending a B2.2 English course. A proficiency test determined that 8 of these L2ers were at the C1 level and 12 at the B2 level. They were evenly divided into two groups: the experimental group, which was instructed on the target properties, and the control group, which did not receive this instruction. Both groups were pre-tested and post-tested immediately and five weeks after the treatment. Learning was measured by means of two speeded acceptability judgement tasks that had already been used in studies 1 and 2.

On pre-testing, the experimental and control groups accepted free inversion and allowed locative inversion with intransitive verbs which are incompatible with the presentational function of this type of SVI, notably change-of-state unaccusative verbs and non-redundant unergatives. Post-tests revealed that the control group did not improve over time and that the impact of instruction on the experimental group's behaviour varied according to the type of target property and the level of proficiency. When the focus was on the syntax-discourse interface, instruction produced no long-term effects at C1 and B2 levels. In contrast, when instruction targeted "narrow" syntax, it resulted in durable gains for the C1s and in no gains for the B2s.

13.3. General conclusions

13.3.1. *Conclusion 1: Divergence is selective at the end state of L2 acquisition in the way predicted by the current version of the IH (Sorace, 2011c)*

Taken together, the results obtained in the present thesis indicate that adult L2ers never become completely native-like, but are not radically different from monolingual native speakers either. At the most advanced level of proficiency that L2ers can attain, the near-native level, divergence is highly selective: while the properties which are "purely" syntactic (e.g., the ungrammaticality of null subjects and "free" inversion in English) or involve an internal interface like the lexicon-syntax interface (e.g., the

distribution of the expletives *it* and *there*) pose no difficulties, those which involve the interface between syntax and discourse are permanently problematic, regardless of whether the L2ers' L1 is similar to or different from the target language in the relevant respects (e.g., the discourse conditions under which locative inversion and *there*-constructions are felicitous, and the lexicon-syntax-discourse conditions which govern the distribution of intransitive verbs in these SVI structures). These findings, on the one hand, disconfirm the predictions of the LIH and, on the other, lend support to the current version of the IH (cf. Sorace, 2011c, 2012). The finding that the NSP is successfully reset in L1 NSL – L2 NNSL pairings, together with the finding that null subjects and "free" inversion correlate in L2 English grammars in the same way as they do in natural grammars moreover indicate that advanced and end state L2 grammars are constrained by UG, just as any natural grammar is. Our results are, therefore, in line with the idea defended by many GenSLA researchers (for an overview, cf. White, 2003b) that UG mediates adult L2 acquisition.

13.3.2. *Conclusion 2: Processing factors are at the root of the differences between internal and external interfaces and the primary cause of L2ers' permanent instability at the syntax-discourse interface*

The results obtained in the present thesis confirm that, as the proponents of the IH claim (Sorace, 2011a, 2011c, 2012, 2016; Sorace & Serratrice, 2009), processing factors are at the root of L2ers' persistent problems at the syntax-discourse interface and of the differences between this interface and grammar-internal interfaces/domains. On the one hand, the finding that the processing load of the experimental task affected near-natives' performance with respect to syntax-discourse properties but not with respect to (lexical-)syntactic properties lends support to the idea that properties requiring the integration of syntactic knowledge and knowledge from grammar-external domains like discourse are more demanding in terms of processing than properties involving only syntactic computations or mappings between modules of the language system alone, which is optimally designed so that its modules can interact in a way that places a minimal burden on processing resources. This finding is moreover consistent with the idea that the differences in processing cost between external and internal interfaces/domains explain why near-native L2ers generally have problems only with respect to the former. On the other hand, the proposal of the IH that the permanent instability found at the syntax-discourse interface stems from processing inefficiencies

which are a by-product of bilingualism is supported by the following findings: (i) L1-L2 similarities did not prevent optionality at this interface; (ii) unlike L2ers, monolingual speakers performed target-like across all the tasks that tested syntax-discourse phenomena; and (iii) in the tasks which were taxing on processing resources, all groups of L2ers exhibited optionality with respect to discourse-conditioned properties, even the groups that performed monolingual-like in the tasks that were undemanding in terms of processing and, hence, more likely to mirror linguistic representations.

Even though the results obtained in the present thesis allow us to firmly conclude that L2ers are much more sensitive to processing load than monolingual speakers, they offer no clue as to why this happens other than that this has something to do with the impact of bilingualism on processing. As Sorace (2011a, 2011c) proposes, the cause of L2ers' sensitivity to processing load may well be the fact that their need to constantly inhibit the L1 when using the L2 is consuming in terms of processing resources and reduces the number of resources available to be recruited for other tasks. As a result, even when the underlying representations are target-like, the demands imposed by the task of coordinating syntactic and discourse information in real time may (inconsistently) exceed the L2er's available resources, leading to "discoordination" in performance. This account, which I label "the competition for resources account" (cf. chapter 7), can readily explain why extra processing burdens (e.g., a lot of discourse information to be processed) affect L2ers' efficiency at the syntax-discourse interface (see conclusion 4). Such facts would be more difficult to accommodate within the "trade-off account" recently advanced by Sorace (2016), according to which bilingual speakers' constant experience of inhibiting one language when using the other confers advantages in terms of inhibitory control, but disadvantages in integration/updating, because increased inhibitory control and less efficient integration/updating ability are in a trade-off relationship.

Importantly, the results of the present thesis suggest that, as the IH proposes, the consequences of bilingualism (here understood in the broad sense of having proficiency in two or more languages) on processing may make L2ers forever distinct from monolingual speakers from a linguistic point of view, even when there are no problems in accessing UG. This means that L2ers cannot be and should not be expected to be like monolingual speakers.

13.3.3. *Conclusion 3: L2ers' problems at the syntax-discourse interface may also be situated at the level of representation depending on construction frequency and L1-L2 distance*

Even though the failure of near-native L2ers to perform native-like at the syntax-discourse interface is primarily caused by processing inefficiencies which arise even when they can otherwise be shown to have target-like representations and be observing UG constraints and resetting parameters, in some cases, the problems at this interface also stem from representational deficits. The results obtained in the drag-and-drop tasks on the acquisition of presentational *there*-constructions and locative inversion in L2 English suggest that construction frequency together with L1 influence determine whether convergence is possible at the level of representation. More specifically, results suggest that properties involving the syntax-discourse interface may pose representational problems to near-native speakers iff (i) they are very rare in the input (as is the case of presentational *there*-constructions but not of locative inversion) and (ii) different in the L1 and the L2 (as is the case in L1 EP – L2 English but not in L1 French – L2 English). I call this generalisation the *External Interface Acquirability Hypothesis (EIAH)*.

The scope of this hypothesis is restricted to the syntax-discourse interface, because the experiments on presentational *there*-constructions revealed that when a construction is very rare and the L1 is different from the L2, near-native L2ers have representational problems with respect to their syntax-discourse properties, but crucially not with respect to their grammar-internal properties. This may be because the syntax-discourse interface is more complex than grammar-internal interfaces and, consequently, L2ers may need more exposure to input to be able to develop target representations of properties at such interface.

The EIAH differs from the LIH in two crucial respects. First, contrary to what the LIH proposes, the EIAH predicts that a syntax-discourse construction does not have to be frequent to be unproblematic from a representational point of view. Even constructions that are slightly infrequent but not extremely rare, such as locative inversion, are predicted to be acquirable to a native level by L2ers with different L1 backgrounds. Second, unlike the LIH, the EIAH does not make predictions about all levels of language. Its scope is restricted to the level of linguistic representation. For

this reason, this hypothesis is fully compatible with the current version of the IH. The EIAH should thus be regarded as a complement rather than as an alternative to the IH.

13.3.4. *Conclusion 4: The optionality at the syntax-discourse interface is a gradient and not a categorical phenomenon*

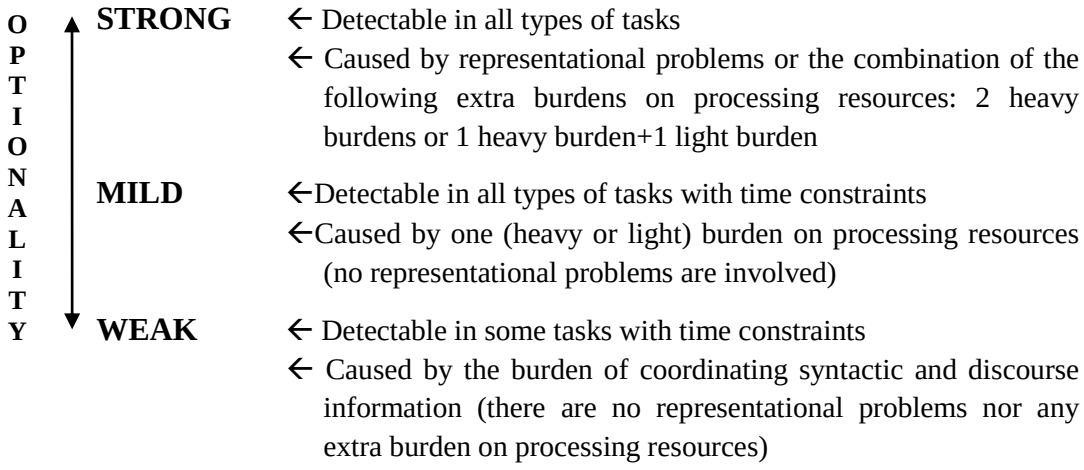
Research findings indicate that, at the end state of L2 acquisition, the syntax-discourse interface is necessarily a locus of persistent optionality, but this optionality is a gradient rather than an all-or-nothing phenomenon. There is a scale of optionality that goes from weak (i.e., optionality only manifested in some of the tasks that are taxing on processing resources) to strong (i.e., optionality manifested in all types of tasks) and is influenced by, at least, four factors, which have (in most cases) been overlooked by the IH: (i) construction frequency (very rare construction → more optionality), (ii) the quantity and/or distance of the pieces of contextual information the speaker needs to process (many pieces of contextual information in an inter-sentential context → more optionality), (iii) the similarity between the L1 and the L2 (L1≠L2 → more optionality), and (iv) the level of proficiency in the L2 (lower than the near-native level → more optionality).

As explained above, construction frequency and L1-L2 similarity appear to determine whether L2ers can develop target-like representations of a syntax-discourse property. When L2ers have representational problems, optionality surfaces in all types of tasks, i.e., optionality is strong. In the remaining cases, the degree of optionality they exhibit depends on their efficiency in the online integration of syntactic and discourse information, which, in turn, is dependent on the number and type of processing burdens they have to handle. In the cases where L2ers have to handle not only the burden of integrating syntactic and discourse information, but also an extra source of processing load (e.g., having an advanced rather than a near-native level of proficiency), optionality is displayed in all of the tasks that involve time pressure. In the cases where L2ers have to deal with two extra sources of processing load (e.g., having an advanced rather than a near-native level of proficiency + having a lot of discourse information to process), optionality surfaces in all types of tasks, including in those which are offline and untimed. Crucially, we found no case where the combination of three optionality-enhancing factors resulted in significantly more optionality across tasks than the combination of just two factors. This is probably because there is a limit to the

processing load L2ers can handle and two extra sources of load suffice to surpass that limit and lead the processor to break down.

It is not just the number of extra burdens that influences L2ers' efficiency at the syntax-discourse interface. Their individual weight also seems to play an important role. The results obtained in the present thesis suggest that construction frequency and the amount/distance of discourse information are heavier processing burdens than L1-L2 dissimilarity and L2 proficiency. For this reason, when a construction is very rare and the properties under test require the integration of many distant pieces of discourse information with syntactic information, L2ers exhibit optionality across tasks, regardless of their level of proficiency and the properties of their L1. When the construction is not very rare and the properties under test require the integration of a few pieces of discourse information, optionality only surfaces in speeded tasks, even if the L2er is at the advanced level and his/her L1 is different from the L2. This is probably because, in these cases, there are no representational deficits and the extra burden that proficiency and L1 factors entail for L2ers' processing resources is not sufficiently heavy to give rise to inconsistencies in untimed offline tasks. L1 influence and L2 proficiency only tend to significantly influence the level of optionality displayed by L2ers in situations where only one of the two heavy processing burdens is present (i.e., when the construction is very rare but the L2er does not have to track a lot of discourse information or when the L2er has to process a lot of discourse information but the construction is not very rare). Critically, cross-linguistic factors seem to have a greater influence on performance at the syntax-discourse interface than proficiency factors, at least when only advanced and near-native levels are compared. Proficiency seems to play a role exclusively when L2ers' L1 is not a source of problems.

These observations are summarised by the following scale of optionality, which should be seen as a complement rather than an alternative to the IH:



Heavy burdens=very rare syntax-discourse structure and many pieces of contextual information in an inter-sentential context; **Light burdens**= L1 different from the L2 and non-near-native level of proficiency

Fig. 13.1. *Scale of optionality at the syntax-discourse interface (final version)*

Given that L2ers exhibit varying degrees of optionality at the syntax-discourse interface (ranging from weak to strong), in certain cases, untimed offline tasks can capture their optionality, but, in other cases, only tasks with time constraints can detect it. The gradience of optionality may, therefore, explain one of the main mysteries of the research conducted over the past decade within GenSLA: why the studies on the syntax-discourse interface − which are, in most cases, offline and untimed (cf. chapter 7 for details) − have produced conflicting results, with some studies confirming the IH and others disconfirming its predictions. Probably, in the latter cases, no optionality was found at the syntax-discourse interface not because that optionality did not exist, but rather because it was mild or weak and, hence, only detectable by tasks that tap into processing, like speeded offline tasks or online tasks.

13.3.5. *Conclusion 5: The syntax of subjects is acquired late in L1 NSL – L2 English pairings due to input misanalysis and not (exclusively) due to a superset-subset relation between L1 and L2 grammars*

Despite being unproblematic at the end state of L2 acquisition, the syntax of subjects gives rise to significant developmental delays in L1 NSL – L2 English pairings. In fact, as shown in chapter 9, L1 speakers of a NSL like EP only converge with the L2 in this respect at a near-native level. Such a delay in the development of the syntax of subjects is not found in L1 English – L2 NSL pairings (e.g., Al-Kasey and Pérez-Leroux 1998, Pérez-Leroux and Glass 1999, Rothman and Iverson 2007). The question then is: why? Judy and Rothman (2010) and Judy (2011) propose that L1 NSLs – L2 English

combinations generate more syntactic problems to L2ers than L1 English – L2 NSL pairings, because, in the former case, the L1 and the L2 are in a superset→subset relationship regarding the NSP and, consequently, it is possible for an interlanguage grammar with the L1 setting for the NSP to efficiently parse the overt subjects and SV orders in the L2 input. In this thesis, it is argued that this hypothesis cannot satisfactorily account for the difficulties observed in L1 NSLs - L2 English pairings due to the following problem: from a syntactic point of view, NSLs and English fall into a superset-subset relation regarding referential subjects and SV/VS orders,[275] but not regarding expletive subjects. NSLs like EP require expletive subjects to be null and English requires them to be overt. For this reason, an interlanguage grammar that fixes the NSP at a positive value cannot accommodate the overt expletive subjects which occur in the L2 input. Their presence thus constitutes unambiguous positive evidence that English requires Spec, IP to be spelled out at PF − or, in Sheehan's (2007) terms, that it has a positive setting for the PF-interpretability micro-parameter − and that, consequently, all types of null subjects are ungrammatical in this language. Considering that study 1 (cf. chapter 9) found that, in L2 English grammars, the availability of null subjects is a pre-requisite for "free" inversion to be licensed, there is good reason to assume that the presence of overt expletive subjects in the input can serve not only as direct positive evidence that English does not allow subjects to remain unexpressed, but also as indirect positive evidence that "free" inversion is ungrammatical in this language.

In order to explain why L1 speakers of NSLs have difficulties with respect to the syntax of subjects in L2 English despite being exposed to overt expletives from the onset of acquisition, a novel hypothesis is advanced in the present thesis: the Expletive Misanalysis Hypothesis. This hypothesis proposes that L1 speakers of NSLs like EP misanalyse, at least, some of the sequences with the order "overt expletive subject +

[275]Recall that, when we take discourse factors into account, it is difficult to maintain that there is a superset-subset relation between NSLs and English, even regarding referential subjects and VS/SV orders. For example, in a narrow subject focus context, English requires SV orders, whereas NSLs like EP strongly prefer VS orders. Since the SV orders and overt referential subjects present in contexts where a null subject grammar favours other options are infelicitous, but crucially not ungrammatical, in that grammar, it can be hypothesised that an interlanguage grammar with a positive setting for the NSP is able to successfully parse the SV orders and the overt referential subjects in the L2 input. In the absence of parsing failures, L1 properties are likely to remain unchallenged for a long time, which is consistent with Judy and Rothman's predictions about L2 development. Thus, the fact that there is a relatively well-defined division of labour between overt and null subjects and between SV and VS orders in NSLs is not particularly problematic for Judy and Rothman's proposals about L2 development in L1 NSL-L2 English pairings.

verb" as a verbal form without an overt subject (e.g., they take "it's" to correspond to "is") until relatively late stages of acquisition mainly due to the influence of their L1, which acts as a filter through which they process the L2 input. According to the Expletive Misanalysis Hypothesis, L2ers are ultimately able to acquire the syntax of subjects in English, because expletive misanalysis is a temporary phenomenon.

Independent evidence in favour of this hypothesis comes from three experimental findings: (i) EP speakers of English fail to consistently reject the misuse of "it's" as a verbal form even at a low-advanced level of proficiency, (ii) the L2ers who do not reject the misuse of "it's" also fail to reject null expletive subjects, and (iii) those who reject the misuse of "it's" also reject null expletives. Crucially, note that, even if overt expletives were misanalysed only in the situations where "it" is contracted with the present form of the verb to be (which seems unlikely to us), the misanalysis of "it's" as equivalent to "is" − attested in chapter 9 − would probably suffice to lead L1-NSL L2-English speakers to entertain the hypothesis that null expletive subjects are sometimes allowed in English and that, by extension, this language does not require Spec, IP to be spelled out at PF.

13.3.6. *Conclusion 6: Explicit grammar instruction can help L2ers overcome persistent problems but its effectiveness depends on the domain(s) of language involved and on learner readiness*

The teaching intervention research conducted as part of the present thesis shows that explicit grammar instruction results in durable gains for L2ers, but its effectiveness is moderated by two factors which have generally been overlooked in recent instructed SLA research: (i) the type of linguistic domain(s) involved in the target structure and (ii) whether or not L2ers are developmentally ready to acquire the target structure. Regarding factor (i), research findings indicate that the area that has been found to be a locus of permanent optionality in L2 acquisition – the syntax-discourse interface – is much less permeable to instructional effects than a domain that does not pose persistent acquisition problems, like narrow syntax. Thus, in addition to differing with respect to their acquirability, narrow syntax and the syntax-discourse interface differ in their permeability to instruction. Regarding factor (ii), the results obtained in this thesis suggest that explicit instruction only benefits acquisition when L2ers are developmentally ready to acquire the target property. Building on Pienemann (1984, 1989), I hypothesise that a property that is typically acquired at a stage of L2

development X may only be within L2ers' "developmental reach" when they are at stage X-1 (e.g., in the case of the acquisition of the ungrammaticality of "free" inversion, X=near-native stage and X-1=advanced stage). From these findings it follows that anyone interested in investigating the role of explicit grammar instruction, designing materials for L2 grammar teaching or simply teaching L2s should take into account what GenSLA has to say about the relative difficulty/ease of acquisition of different linguistic domains and about how the linguistic properties they want to work on develop in L2s.

13.3.7. *Conclusion 7: The L1 should be attributed a role in L2 grammar teaching*

By showing that the L1 influences L2 acquisition and that explicit instruction on L1-L2 syntactic differences can help L2ers overcome persistent negative transfer from the L1, the present thesis challenges a view shared by most modern theories of language teaching and learning (for an overview, cf. Cook, 2010; Hall & Cook, 2012): the view that the L1 should ideally play no role in L2 classrooms. The results of this thesis suggest, contra this view, that teachers should take into account the L1 background of their students to decide which grammatical properties need to be taught and, when appropriate, encourage students to compare their L1s to the target language, for example, by using translation activities. The purpose of this comparative method of grammar teaching is to help L2ers notice the gap between the L1 and the L2 and disconfirm the L1-based hypotheses that they formulate about the target language.

13.4. Possible avenues for future research

The present thesis provides answers to a number of questions that have generated much debate in recent GenSLA research, namely: (i) Is the syntax-discourse interface necessarily a locus of optionality at the end state of L2 acquisition? (ii) Are L2ers' problems at this interface situated at the level of processing and/or at the level of representation? (iii) What factor or combination of factors causes those problems? (iv) Are the syntactic phenomena that interface internally with sub-modules of language less problematic at the end state of L2 acquisition than the syntactic phenomena that interface with discourse? (v) Is the syntax of subjects completely unproblematic at the end state of L2 acquisition? (vi) Can explicit instruction help L2ers overcome persistent problems in the acquisition of syntactic and syntax-discourse properties? In addition to

answering existing questions, this thesis raises new questions that are worth examining in future research.

One of those questions is whether the EIAH and the scale of optionality proposed in the thesis can account for how L2ers and other bilingual populations behave with respect to a wide range of syntax-discourse phenomena. It would be particularly pertinent to test these generalisations with some of the syntax-discourse phenomena that have been found to be unproblematic in previous GenSLA studies using both untimed and speeded tasks. This would allow us to determine whether, as we propose, such studies found no optionality at the syntax-discourse interface not because it does not exist, but rather because it is mild or weak and, hence, not detectable by the tasks that most GenSLA researchers use: untimed offline tasks. By testing the EIAH and the scale of optionality at the syntax-discourse interface with linguistic phenomena and bilingual populations which were not studied in the present thesis, we may identify other factors that modulate optionality at this interface, get a clearer picture of how different factors interact, and, hopefully, find answers to two questions that were left open in the present thesis: How infrequent does a structure have to be to cause processing inefficiencies and/or representational problems at the syntax-discourse interface? Which factor represents a burden for L2 processing at the syntax-discourse interface − the quantity of discourse information that has to be processed, the distance of this information or both factors?

Another question that needs to be investigated in future work is whether the Expletive Misanalysis Hypothesis is on the right track. To reach firmer conclusions about the validity of this hypothesis, we need to administer the experiment used in the present thesis to a control group of monolingual speakers of English, a control group of L1 speakers of a NNSL and larger groups of L1 speakers of EP at B2, C1 and C2 levels. It would also be interesting to add new items to the experiment, so as to test how L1 speakers of EP behave with regard to the minimal pairs "it's not" and "it isn't" when they are used in the contexts where "isn't/is not" would be expected in L1 English. These items will help us establish whether or not L2ers only misanalyse the expletive *it* when it is contracted with the verb *to be*.

The proposal of the Expletive Misanalysis Hypothesis that the correct analysis of overt expletives as subjects and not as inflectional forms is what triggers NSP resetting from a positive to a negative value leads to the following question: can explicit

instruction on expletive subjects trigger NSP resetting? This question is pertinent from a theoretical point of view, because, if it could be shown that, as a result of instruction on expletive subjects, L2ers cease to misanalyse "it's" and are able to eliminate all types of null subjects and "free" inversion from their interlanguages, this would lend support to the Expletive Misanalysis Hypothesis. The question above is moreover relevant from a pedagogical point of view, for, if by simply providing instruction on expletive subjects teachers could help L2ers overcome related problems, this would greatly facilitate grammar teaching and learning in L1 NSLs – L2 English pairings.

There are two last questions that are worth investigating in future research: (i) what aspect(s) of instruction trigger changes in interlanguage grammars − primary linguistic data, explicit positive evidence and/or explicit negative evidence? (ii) Can explicit instruction bring about any long-term changes at the syntax-discourse interface? Given that the results of the present thesis are consistent with the proposal of the IH that L2ers' problems at this interface are caused by the cognitive impact of having two languages represented in the mind, I hypothesise that explicit instruction can never result in the complete elimination of L2ers' optionality with respect to syntax-discourse structures, regardless of its length and type. At best, instruction may help L2ers develop native-like representations and reduce their optionality to the lowest level of the scale of optionality proposed in fig. 13.1.

In sum, the present thesis raises a number of questions that have the potential of advancing not only the theory of L2 acquisition but also the practice of L2 teaching. There is a long way to go to address some of them, but the road is wide open before us.

References

Abbott, B. (1992). Definiteness, existentials, and the 'list' interpretation. In C. Barker & D. Dowty (Eds.), *SALT II: Proceedings of the Second Conference on Semantics and Linguistic Theory* (pp. 1-16). Columbus: The Ohio State University.

Abbott, B. (1993). A pragmatic account of the definiteness effect in existencial sentences. *Journal of Pragmatics, 19*(1), 39-55.

Abbott, B. (1997). Definiteness and existentials. *Language, 73*(1), 103-108.

Adragão, M. d. M., & Costa, J. (2004). On the status of preverbal subjects in null subject languages: Evidence from acquisition. In J. van Kampen & S. Baauw (Eds.), *Proceedings of GALA 2003* (pp. 69-80). Utrecht: LOT Occasional Series.

Akakura, M. (2012). Evaluating the effectiveness of explicit instruction on implicit and explicit L2 knowledge. *Language Teaching Research, 16*(1), 9-37.

Al-Kasey, T., & Pérez-Leroux, A. T. (1998). Second language acquisition of Spanish null subjects. In S. Flynn, G. Martohardjono, & W. O'Neil (Eds.), *The generative study of second language acquisition* (pp. 161-185). Hillsdale, NJ: Lawrence Erlbaum.

Alexiadou, A., & Anagnostopoulou, E. (1998). Parametrizing AGR: Word order, V-movement and EPP-checking. *Natural Language and Linguistic Theory, 16*, 491-539.

Alexiadou, A., & Schafër, F. (2010). There-insertion: An unaccusativity mismatch at the syntax-semantics interface. In M. B. Washburn, S. Ouwayda, C. Ouyang, B. Yin, C. Ipek, L. Marston, & A. Walker (Eds.), *WCCFL 28 Online Proceedings*. Los Angeles: University of Southern California.

Ambar, M. M. (1992). *Para uma sintaxe da inversão sujeito-verbo em português*. Lisboa: Edições Colibri.

Baayen, R. H. (2008). *Analyzing linguistic data: A practical introduction to statistics using R*. Cambridge: Cambridge University Press.

Baayen, R. H., Davidson, D. J., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language, 59*(4), 390-412.

Bader, M., & Häussler, J. (2010). Toward a model of grammaticality judgments. *Journal of Linguistics, 46*(2), 273-330.

Bailey, N., Madden, C., & Krashen, S. (1974). Is there a "natural sequence" in adult second language learning? *Language Learning, 24*(2), 235-243.

Bailyn, J. F. (2004). Generalized inversion. *Natural Language & Linguistic Theory, 22*(1), 1-50.

Barbosa, P. (1995). *Null subjects.* (PhD thesis), MIT, USA.

Barbosa, P., Duarte, M. E., & Kato, M. (2005). Null subjects in European and Brazilian Portuguese. *Journal of Portuguese Linguistics, 4*, 11-52.

Bell, M. F. (2006). L2 acquisition of focus constructions in European Portuguese and the L2 status of the syntax-discourse interface. In M. G. O'Brien, C. S. Shea, & J. Archibald (Eds.), *Proceedings of the 8th Generative Approaches to Second Language Acquisition Conference (GASLA 2006)* (pp. 41-50). Somerville, MA: Cascadilla Proceedings Project.

Bell, M. F. (2009). Divergence at the syntax-discourse interface: Evidence from the L2 acquisition of contrastive focus in European Portuguese. In A. Pires & J. Rothman (Eds.), *Minimalist inquiries into child and adult language acquisition: Case studies across Portuguese* (pp. 197-219). Berlin / New York: Mouton de Gruyter.

Belletti, A. (1988). The Case of unaccusatives. *Linguistic Inquiry, 19*(1), 1-34.

Belletti, A. (1990). *Generalized verb movement: Aspects of verb syntax*. Turin: Rosenberg and Sellier.

Belletti, A. (2004). Aspects of the low IP area. In L. Rizzi (Ed.), *The structure of CP and IP. The cartography of syntactic structures* (Vol. 2, pp. 16-51). Oxford / New York: Oxford University Press.

Belletti, A. (2005a). Answering with a cleft. The role of the null subject parameter and the vP periphery. In L. Brugé, G. Giusti, N. Munaro, W. Schweikert, & G. Turano (Eds.),

Proceedings of the XXX Incontro di Grammatica Generativa (pp. 63-82). Venice: Cafoscarina.
Belletti, A. (2005b). Extended doubling and the vP periphery. *Probus, 17*(1), 1-35.
Belletti, A. (2007). Answering strategies: A view from acquisition In S. Baauw, F. Drijkoningen, & M. Pinto (Eds.), *Romance languages and linguistic theory 2005* (pp. 19-38). Amsterdam: John Benjamins.
Belletti, A. (2010). *Structures and strategies*. London / New York: Routledge.
Belletti, A., Bennati, E., & Sorace, A. (2007). Theoretical and developmental issues in the syntax of subjects: Evidence from near-native Italian. *Natural Language & Linguistic Theory, 25*(4), 657-689.
Belletti, A., & Bianchi, V. (2016). Definiteness effect and unaccusative subjects: An overview and some new thoughts. In S. Fischer, T. Kupisch, & E. Rinke (Eds.), *Definiteness effects: Bilingual, typological and diachronic variation*. Newcastle upon Tyne: Cambridge Scholars Publishing.
Belletti, A., & Leonini, C. (2004). Subject inversion in L2 Italian. In S. Cohen, M. Sharwoodsmith, A. Sorace, & M. Ota (Eds.), *EUROSLA Yearbook* (pp. 95-118). Amsterdam: John Benjamins.
Berwick, R. (1985). *The acquisition of syntactic knowledge*. Cambridge, MA: MIT Press.
Bialystok, E. (2009). Bilingualism: the good, the bad, and the indifferent. *Bilingualism: Language and Cognition, 12*, 3-11.
Bialystok, E., & Martin, M. (2004). Attention and inhibition in bilingual children: Evidence from the dimensional change card sort task. *Developmental Science, 7*, 325–339.
Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. London: Longman.
Biberauer, T., Holmberg, A., Roberts, I., & Sheehan, M. (2010). *Parametric variation: Null subjects in minimalist theory*. Cambridge: Cambridge University Press.
Bini, M. (1993). La adquisicíon del italiano: Mas allá de las propiedades sintácticas del parámetro pro-drop. In J. Liceras (Ed.), *La linguistica y el analisis de los sistemas no nativos* (pp. 126-139). Ottawa: Doverhouse.
Birdsong, D. (2004). Second language acquisition and ultimate attainment. In A. Davies & C. Elder (Eds.), *The handbook of applied linguistics* (pp. 82-105). Malden: Blackwell.
Birner, B. (1994). Information status and word order: An analysis of English inversion. *Language, 70*(2), 233-259.
Birner, B. (1996). *The discourse function of inversion in English*. New York / London: Routledge.
Birner, B. (1998). Recency effects in English inversion. In M. A. Walker, A. K. Joshi, & E. Prince (Eds.), *Centering theory in discourse* (pp. 309-323). Oxford: Clarendon Press.
Birner, B., & Ward, G. (1998). *Information status and noncanonical word order in English*. Amsterdam: John Benjamins.
Birner, B., & Ward, G. (2008). Information structure. In B. Aarts & A. McMahon (Eds.), *The Handbook of English Linguistics* (pp. 291-317): Blackwell Publishing.
Blanche-Benveniste, C. (1997). *Approches de la langue parlée en français*. Paris: Orphys.
Bock, J. K. (1986). Syntactic persistence in language production. *Cognitive Psychology, 18*(3), 355-387.
Bock, J. K. (1989). Closed-class immanence in sentence production. *Cognition, 31*, 163-186.
Bock, J. K., & Loebell, H. (1990). Framing sentences. *Cognition, 35*, 1-39.
Bohnacker, U., & Rosén, C. (2007). Transferring information-structural patterns from Swedish to German. In A. Belikova, L. Meroni, & M. Umeda (Eds.), *Proceedings of Generative Approaches to Language Acquisition North America 2*. Somerville, MA: Cascadilla Proceedings Project.
Bolinger, D. (1977). *Meaning and form*. London: Longman.
Bonami, O., Godard, D., & Marandin, J.-M. (1998). French subject inversion in extraction contexts. In G. Bouma, G.-J. Kruijff, & R. T. Oehrle (Eds.), *Proceedings of the joint conference on Formal Grammar, Head-driven Phrase Structure Grammar, and Categorial Grammar* (pp. 101-112). Sarrebruck: Université de Sarrebruck.

Bonami, O., Godard, D., & Marandin, J.-M. (1999). Constituency and word order in French subject inversion. In G. Bouma (Ed.), *Constraints and resources in natural language syntax and semantics* (pp. 21-40). Standford: Standford University.

Borer, H. (1984). *Parametric syntax*. Dordrecht: Foris.

Bowles, M. (2011). Measuring implicit and explicit linguistic knowledge: What can heritage language learners contribute? *Studies in Second Language Acquisition, 33*(2), 247-271.

Bowles, M., & Montrul, S. (2008). The role of explicit instruction in the L2 acquisition of the a-personal. In J. B. De Garavito & E. Valenzuela (Eds.), *Selected Proceedings of the 10th Hispanic Linguistics Symposium* (pp. 25-35). Somerville, MA: Cascadilla Proceedings Project.

Branigan, H. P. (2007). Syntactic priming. *Language and Linguistics Compass, 1*(2), 1-16.

Branigan, H. P., Pickering, M. J., & Cleland, A. A. (1999). Syntactic priming in written production: Evidence for rapid decay. *Psychonomic Bulletin & Review, 6*(4), 635-640.

Branigan, H. P., Pickering, M. J., & Cleland, A. A. (2000). Syntactic co-ordination in dialogue. *Cognition, 75*(2), B13-25.

Breivik, L. E. (1981). On the interpretation of existential there. *Language, 57*(1), 1-25.

Bresnan, J. (1994). Locative inversion and the architecture of Universal Grammar. *Language, 70*(1), 72-131.

Broekhuis, H. (2005). Locative inversion in English. In J. Doetjes & J. v. d. Weijer (Eds.), *Linguistics in the Netherlands 2005* (pp. 49-60). Amsterdam: Jonh Benjamins Publishing.

Bruening, B. (2010). Ditransitive asymmetries and a theory of idiom formation. *Linguistic Inquiry, 41*, 519-562.

Bruhn de Garavito, J. (2013). What research can tell us about teaching: The case of pronouns and clitics. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 17-34). Dordrecht: Springer Netherlands.

Bruhn de Garavito, J., & Valenzuela, E. (2006). The status of ser and estar in late and early bilingual L2 Spanish. In C. A. Klee & T. L. Face (Eds.), *Selected proceedings of the 7th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages* (pp. 100-109). Somerville, MA: Cascadilla Proceedings Projects.

Büring, D. (2012). Focus and intonation. In G. Russell & D. G. Fara (Eds.), *Routledge companion to the philosophy of language* (pp. 103-115). London: Routledge.

Burzio, L. (1986). *Italian syntax*. Dordrecht: Reidel.

Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon: Multilingual Matters.

Byram, M. (2014). Twenty-five years on – From cultural studies to intercultural citizenship. *Language, culture and curriculum, 27*(3), 209-225.

Callies, M. (2012). Markedness. In P. Robinson (Ed.), *The Routledge encyclopedia of second language acquisition* (pp. 406-409). New York / Oxon: Routledge.

Camacho, J. A. (2013). *Null Subjects*. Cambridge: Cambridge University Press.

Canale, M. (1983). From communicative competence to communicative language pedagogy. In R. Schmidt & J. C. Richards (Eds.), *Language and communication* (pp. 2-27). London: Longman.

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics, 1*, 1-47.

Cardinaletti, A. (2004). Toward a cartography of subject positions. In L. Rizzi (Ed.), *The structure of CP and IP: The cartography of syntactic structures*. Oxford / New York: Oxford University Press.

Carlier, A. (2005). L'argument davidsonien: Un critère de distinction entre les prédicats «stage level» et les prédicats «individual level»? *Travaux de linguistique, 1*(50), 13-35.

Carlson, G. (1977). *Reference to kinds in English.* (PhD thesis), University of Massachusetts, USA.

Carminati, M. N. (2002). *The processing of Italian subject pronouns.* (PhD thesis), University of Massachusetts, Amherst.

Carrilho, E. (2005). *Expletive 'ele' in European Portuguese dialects.* (PhD thesis), Universidade de Lisboa, Lisboa.

Cecchetto, C., & Donati, C. (to appear). Quattro passi in the NP structures. A cyclic theory of idiomatization. In N. Corver, J. v. Craenenbroeck, W. Harwood, M. Hladnik, S. Leufkens, & T. Temmerman (Eds.), *The grammar of idioms*. Berlin: Mouton de Gruyter.

Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book*. Boston: Heinle and Heinle.

Chafe, W. L. (1976). Givenness, contrastiveness, definiteness, subjects, topics and point of view. In C. Li (Ed.), *Subject and topic* (pp. 27-55). New York: Academic Press.

Chamorro, G., Sorace, A., & Sturt, P. (2016). What is the source of L1 attrition? The effect of recent L1 re-exposure on Spanish speakers under L1 attrition. *Bilingualism: Language and Cognition, 19*(3), 520-532.

Chen, R. (2003). *English inversion. A ground-before-figure construction*. Berlin: Mouton de Gruyter.

Chomsky, N. (1971). Deep structure, surface structure and semantic interpretation. In D. Steinberg & L. Jakobovits (Eds.), *Semantics: An interdisciplinary reader in philosophy, linguistics and psychology* (pp. 183-216). Cambridge: Cambridge University Press.

Chomsky, N. (1976). Conditions on rules of grammar. *Linguistic Analysis, 2*, 303-351.

Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, N. (1986). *Knowledge of language: Its nature, origin and use*. New York: Praeger.

Chomsky, N. (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, N. (2000). Minimalist inquiries: The framework. In R. Martin, D. Michaels, & J. Uriagereka (Eds.), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik* (pp. 89-155). Cambridge, MA: The MIT Press.

Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.), *Ken Hale: A life in language* (pp. 1-52). Cambridge, MA: The MIT Press.

Chomsky, N. (2004). Beyond explanatory adequacy. In A. Belletti (Ed.), *Structures and beyond: The cartography of syntactic structures, vol. 3.* (pp. 104-131). Oxford: Oxford University Press.

Chomsky, N. (2005). Three factors in language design. *Linguistic Inquiry, 36*(1), 1-22.

Cinque, G. (1993). A null theory of phrase and compound stress *Linguistic Inquiry, 24*, 239-297.

Clark, H. H. (1973). The language-as-fixed-effect fallacy: A critique of language statistics in psychological research. *Journal of Verbal Learning and Verbal Behavior, 12*(4), 335-359.

Cleland, A. A., & Pickering, M. J. (2003). The use of lexical and syntactic information in language production: Evidence from the priming of noun-phrase structure. *Journal of Memory and Language, 49*(2), 214-230.

Cook, G. (2010). *Translation in language teaching*. Oxford: Oxford University Press.

Coopmans, P. (1989). Where stylistic and syntactic processes meet: Locative inversion in English. *Language, 65*(4), 728-751.

Copy, C., & Gournay, L. (2009). Locative inversion in discourse: A strategy of non-commitment. *Discours, 5*.

Cornish, F. (2001). L'inversion 'locative' en français, italien et anglais: Propriétés syntaxiques, sémantiques et discursives. *Cahiers de Grammaire, 26*, 101-123.

Cornish, F. (2005). A cross-linguistic study of so-called 'locative inversion': Evidence for the Functional Discourse Grammar model. In C. d. Groot & K. Hengeveld (Eds.), *Morphosyntactic expression in Functional Grammar.* (pp. 163-202). Berlin / New York: Mouton de Gruyter.

Costa, J. (1998). *Word order variation: A constraint-based approach.* (PhD thesis), Leiden University.

Costa, J. (2001). Word order and discourse-configurationality in European Portuguese. In J. Costa (Ed.), *Portuguese syntax: New comparative studies*. Oxford / New York: Oxford University Press.

Costa, J. (2004). *Subject positions and interfaces. The case of European Portuguese*. Berlin: Mouton de Gruyter.

Costa, J., & Duarte, I. (2002). Preverbal subjects in null subject languages are not necessarily left-dislocated. *Journal of Portuguese Linguistics, 2*, 159-175.

Costa, J., & Figueiredo Silva, M. C. (2006). On the (in)dependence relations between syntax and pragmatics. In V. Molnár & S. Winkler (Eds.), *The architecture of focus* (pp. 83-104). Berlin: Mouton de Gruyter.

Costa, J., & Pratas, F. (2004). Capeverdean creole: Some parametric values. In M. Fernández, M. Fernández-Ferreiro, & N. V. Veiga (Eds.), *Los criollos de base ibérica: ACBLPE 2003* (pp. 127-138). Madrid: Iberoamericana.

Council of Europe. (2001). *Common European Framework of Reference for Languages: Learning, teaching, assessment*. Cambridge: Cambridge University Press.

Council of Europe. (2018). *Common European framework of reference for languages: Learning, teaching, assessment companion volume with new descriptors*. Strasbourg: Council of Europe.

Culicover, P., & Levine, R. D. (2001). Stylistic inversion in English: A reconsideration. *Natural Language & Linguistic Theory, 19*(2), 283-310.

Culicover, P., & Winkler, S. (2008). English focus inversion. *Journal of Linguistics, 44*(03), 625-658.

Cunnings, I. (2012). An overview of mixed-effects statistical models for second language researchers. *Second Language Research, 28*(3), 369-382.

Cyrino, S., Duarte, M. E., & Kato, M. (2000). Visible subjects and invisible clitics in Brazilian Portuguese. In M. Kato & E. Negrão (Eds.), *Brazilian Portuguese and the Null Subject Parameter* (pp. 55-104). Frankfurt: Vervuert-Iberoamericana.

D'Alessandro, R. (2015). Null subjects. In A. Fabregas, J. Mateu, & M. Putnam (Eds.), *Contemporary linguistic parameters* (pp. 201-226). London / New York: Bloomsbury.

de Graaff, R., & Housen, A. (2009). Investigating the effects and effectiveness of L2 instruction. In M. Long & C. J. Doughty (Eds.), *The handbook of language teaching* (pp. 726-755). Chichester: Wiley-Blackwell.

de Swart, H., & de Hoop, H. (1995). Topic and focus. *Glot International, 1*, 3-7.

Deal, A. R. (2009). The origin and content of expletives: Evidence from "selection". *Syntax, 12*(4), 285-323.

DeKeyser, R. M. (1997). Beyond explicit rule learning: Automatizing second language morphosyntax. *Studies in Second Language Acquisition, 19*(2), 195-221.

DeKeyser, R. M. (1998). Beyond focus on form: Cognitive perspectives on learning and practicing second language grammar. In C. J. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 42-63). Cambridge / New York: Cambridge University Press.

DeKeyser, R. M. (2000). The robustness of critical period effects in second language acquisition. *Studies in Second Language Acquisition, 22*(4), 499-533.

DeKeyser, R. M. (2001). Automaticity and automatization. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 125-151). Cambridge / New York: Cambridge University Press.

DeKeyser, R. M. (2003). Implicit and explicit learning. In C. J. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 313-349). Oxford: Blackwell.

DeKeyser, R. M. (2005). What makes learning second-language grammar difficult? A review of issues. *Language Learning, 55*(S1), 1-25.

DeKeyser, R. M. (2009). Cognitive-psychological processes in second language learning. In M. Long & C. J. Doughty (Eds.), *The handbook of language teaching* (pp. 119-138). West Sussex: Blackwell.

DeKeyser, R. M. (2015). Skill acquisition theory. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction* (pp. 94-112). New York: Routledge.

DeKeyser, R. M., & Criado-Sánchez, R. (2012). Automatization, skill acquisition, and practice in second language acquisition. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 323-331). Oxford: Wiley-Blackwell.

Dekydtspotter, L., Sprouse, R., & Anderson, B. (1997). The interpretive interface in L2 acquisition: The process-result distinction in English-French interlanguage grammars. *Language Acquisition, 6*, 297-332.

Dekydtspotter, L., Sprouse, R., & Swanson, K. (2001). Reflexes of mental architecture in second-language acquisition: The interpretation of combien extractions in English-French interlanguage. *Language Acquisition, 9*, 175-227.

Dekydtspotter, L., Sprouse, R., & Thyre, R. (2001). The interpretation of quantification at a distance in English-French interlanguage: Domain specificity and second-language acquisition. *Language Acquisition, 8*, 265-320.

den Dikken, M. (2006). *Relators and linkers*. Cambridge, MA: The MIT Press.

Dijkstra, T., & Van Heuven, W. J. B. (2002). The architecture of the bilingual word recognition system: From identification to decision. *Bilingualism: Language and Cognition, 5*, 175-197.

Doetjes, J. (1992). Rightward floating quantifiers float to the left. *Linguistic Review, 9*, 313-332.

Domínguez, L. (2013). *Understanding interfaces: Second language acquisition and native language attrition of Spanish subject realization and word order variation*. Amsterdam: John Benjamins.

Domínguez, L., & Arche, M. J. (2014). Subject inversion in non-native Spanish. *Lingua, 145*, 243-265.

Donaldson, B. (2011a). Left dislocation in near-native French. *Studies in Second Language Acquisition, 33*(3), 399-432.

Donaldson, B. (2011b). Nativelike right-dislocation in near-native French. *Second Language Research, 27*(3), 361-390.

Donaldson, B. (2012). Syntax and discourse in near-native French: Clefts and focus. *Language Learning, 62*(3), 902-930.

Dorgeloh, H. (1997). *Inversion in modern English: Form and function*. Amsterdam: John Benjamins.

Drubig, H.-B. (1988). On the discourse function of subject-verb inversion. In J. Klegraf & D. Nehls (Eds.), *Essays on the English language and applied linguistics on the occasion of Gerhard Nickel's 60th birthday* (pp. 83-95). Heidelberg: Julius Groos Verlag.

Duarte, I. (1997). Ordem de palavras: sintaxe e estrutura discursiva. In A. M. Brito (Ed.), *Sentido que a vida faz – Estudos para Óscar Lopes* (pp. 581–592). Porto: Campo das Letras.

Duarte, I. (2003). Algumas reflexões sobre ordem de palavras em línguas românicas de sujeito nulo. In F. I. Fonseca, A. M. Brito, I. M. Duarte, & J. Guimarães (Eds.), *Língua portuguesa: Estruturas, usos e contrastes* (pp. 133-146). Porto: CLUP.

Duarte, M. E. (1995). *A perda do principio "evite pronome" no portugues brasileiro.* (PhD thesis), Unicamp, Brazil.

Duarte, M. E., Mourão, G., & Mendonça, H. (2012). Os sujeitos de terceira pessoa: Revisitando Duarte (1993). In M. E. Duarte (Ed.), *O sujeito em peças de teatro (1833-1992): Estudos diacrônicos* (pp. 21-44). São Paulo: Parábola Ed.

Dulay, H., & Burt, M. (1973). Should we teach children syntax? *Language Learning, 23*, 245-258.

Dulay, H., & Burt, M. (1974). Natural sequences in child second language acquisition. *Language Learning, 24*, 37-53.

Dulay, H., & Burt, M. (1975). Creative construction in second language learning and teaching. In M. Burt & H. Dulay (Eds.), *On TESOL '75: New directions in second language learning, teaching and bilingual education* (pp. 21-32). Washington, DC: TESOL.

Ellis, R. (1989). Are classroom and naturalistic acquisition the same? A study of the classroom acquisition of german word order rules. *Studies in Second Language Acquisition, 11*(3), 305-328.

Ellis, R. (1993). The structural syllabus and second language acquisition. *TESOL Quarterly, 27*(1), 91-113.
Ellis, R. (1994). A theory of instructed second language acquisition. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 79-114). San Diego: Academic Press.
Ellis, R. (2002a). Does form-focused instruction affect the acquisition of implicit knowledge? A review of the research. *Studies in Second Language Acquisition, 24*(2), 223-236.
Ellis, R. (2002b). The place of grammar instruction in the second/foreign language curriculum. In E. Hinkel & S. Fotos (Eds.), *New perspectives on grammar teaching in second language classrooms* (pp. 14-34). London: Routledge.
Ellis, R. (2005). Measuring implicit and explicit knowledge of a second language: A psychometric study. *Studies in Second Language Acquisition, 27*(2), 141-172.
Ellis, R. (2008). *The study of second language acquisition* (2nd Edition ed.). Oxford / New York: Oxford University Press.
Ellis, R. (2015). Form-focused instruction and the measurement of implicit and explicit L2 knowledge. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp. 417-442). Amsterdam: John Benjamins Publishing.
Ellis, R., & Gaies, S. (1998). *Impact grammar*. Hong Kong: Longman Addison Wesley.
Ellis, R., Loewen, S., Elder, C., Philp, J., Reinders, H., & Erlam, R. (2009). *Implicit and explicit knowledge in second language learning, testing and teaching*. Bristol: Multilingual Matters.
Ellis, R., & Shintani, N. (2014). *Exploring language pedagogy through second language acquisition research*. Oxon: Routledge.
Emonds, J. (1976). *A transformational approach to syntax: Root, structure preserving and local transformations*. New York: Academic Press.
Erteschik-Shir, N. (1997). *The dynamics of focus structure*. Cambridge: Cambridge University Press.
Erteschik-Shir, N. (1999). Focus structure and scope. In G. Rebuschi & L. Tuller (Eds.), *The grammar of focus* (pp. 119-150). Amsterdam: John Benjamins.
Erteschik-Shir, N. (2007). *The syntax/discourse interface: Information structure*. Cambridge: Cambridge University Press.
Ferreira, F., & Henderson, J. M. (1991). Recovery from misanalysis of garden-path sentences. *Journal of Memory and Language, 30*, 725-745.
Ferreira, V. S. (2003). The persistence of optional complementizer mention: Why saying a "that" is not saying "that" at all. *Journal of Memory and Language, 48*, 379-398.
Figueiredo Silva, M. C. (1996). *A posição do sujeito no português do Brasil: Frases finitas e infinitivas*. Campinas: Ed. Unicamp.
Flett, S. (2006). *A comparison of syntactic representation and processing in first and second language production.* (PhD thesis), University of Edinburgh, United Kingdom.
Flett, S. (2013). Are non-native structural preferences affected by native language preferences? *Bilingualism: Language and Cognition, 16*(4), 751-760.
Franceschina, F. (2005). *Fossilized second language grammars: The acquisition of grammatical gender*. Amsterdam: John Benjamins.
Freeze, R. (1992). Existentials and other locatives. *Language, 68*(3), 553-595.
Fuchs, C. (2006). La place du sujet nominal en français : de la syntaxe à l'énonciation. In F. Hrubaru & A. Velicu (Eds.), *Énonciation et syntaxe* (pp. 9-25). Cluj: Echinox.
García Mayo, M. P. (1998). The null subject parameter in adult second language acquisition. *Atlantis, 20*(1), 47-58.
Gass, S., Svetics, I., & Lemelin, S. (2003). Differential effects of attention. *Language Learning, 53*(3), 497-546.
Gelman, A., & Hill, J. (2007). *Data analysis using regression and multilevel/hierachicaal models*. Cambridge: Cambridge University Press.
Gil, K.-H., Marsden, H., & Whong, M. (2011). L2 acquisition of any: Negative evidence, negative implicature and negative L1 transfer *Selected Proceedings of the Second Language Research Forum 2010* (pp. 29-39). Sommerville, MA: Cascadilla Proceedings Project.

Gil, K.-H., Marsden, H., & Whong, M. (2013a). Can explicit grammar instruction serve as evidence for L2 grammar restructuring? . In S. Stavrakaki, P. Konstantinopoulou, & M. Lalioti (Eds.), *Advances in language acquisition: Proceedings of GALA 2011* (pp. 328-336). Cambridge: Cambridge Scholars Publishing.

Gil, K.-H., Marsden, H., & Whong, M. (2013b). Quantifiers: Form and meaning in second language development. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 139-159). Dordrecht: Springer Netherlands.

Gilligan, G. (1987). *A cross-linguistic approach to the pro-drop parameter*. (PhD thesis), University of Southern California, USA.

Goo, J., Granena, G., Yilmaz, Y., & Novella, M. (2015). Implicit and explicit instruction in L2 learning: Norris & Ortega (2000) revisited and updated. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp. 443-482). Amsterdam: John Benjamins Publishing.

Gournay, L. (2006). Qu'est-ce qui distingue l'inversion absolue de l'inversion locative en français? . *Lingvisticæ Investigationes, 29*(1), 91-102.

Green, D. W. (1998). Mental control of the bilingual lexicosemantic system. *Bilingualism: Language and Cognition, 1*, 67-81.

Guijarro-Fuentes, P., & Marinis, T. (2007). Acquiring phenomena at the syntax/semantics interface in L2 Spanish: The personal preposition a. *EuroSLA Yearbook 7* (pp. 67-87). Amsterdam: John Benjamins.

Gundel, J. K., & Fretheim, T. (2008). Topic and focus. In L. Horn & G. Ward (Eds.), *The handbook of pragmatics* (pp. 175-196): Blackwell Publishing Ltd.

Haegeman, L. (1990). Non-overt subjects in diary contexts. In J. Mascaro & M. Nespor (Eds.), *Grammar in Progress: GLOW essays for Henk van Riemsdijk* (pp. 167-174). Dordrecht: Foris.

Haegeman, L. (1999). Adult null subjects in non pro-drop languages. In M.-A. Friedemann & L. Rizzi (Eds.), *The acquisition of syntax: Studies in comparative developmental linguistics* (pp. 329-346). London: Addison, Wesley and Longman.

Haegeman, L. (2013). The syntax of registers: Diary subject omission and the privilege of the root. *Lingua, 130*, 88-110.

Haegeman, L., & Guéron, J. (1999). *English grammar: A generative perspective*. Malden, MA: Blackwell.

Hall, G., & Cook, G. (2012). Own-language use in language teaching and learning. *Language Teaching, 45*(3), 271-308.

Hartmann, J. (2008). *Expletives in existentials: English there and German da*. (PhD thesis), Tilburg University, The Netherlands.

Harwood, W. (2013). *Being progressive is just a phase. Dividing the functional hierarchy*. (PhD thesis), Universiteit Gent, Belgium.

Hertel, T. (2003). Lexical and discourse factors in the second language acquisition of Spanish word order. *Second Language Research, 19*(4), 273-304.

Hilles, S. (1986). Interlanguage and the pro-drop parameter. *Second Language Research, 2*(1), 33-52.

Hirakawa, M. (2013). Alternations and argument structure in second language English: Knowledge of two types of intransitive verbs. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 117-137). Dordrecht: Springer Netherlands.

Hockett, C. F. (1958). *A course in modern linguistics*. New York: Macmillan.

Hoekstra, T., & Mulder, R. (1990). Unergatives as copular verbs: Locational and existential predication. *The Linguistic Review, 7*, 1-79.

Holler, S., & Hartmann, J. (2012). Locative inversion in English: Implications of a rating study In S. Featherston & B. Stolterfoht (Eds.), *Empirical approaches to linguistic theory: Studies in meaning and structure* (pp. 241-265). Berlin: Mouton de Gruyter.

Holmberg, A. (2005). Is there a little pro? Evidence from Finnish. *Linguistic Inquiry, 36*(4), 533-564.

Holmberg, A. (2010). Null subject parameters. In T. Biberauer, A. Holmberg, I. Roberts, & M. Sheehan (Eds.), *Parametric variation: Null subjects in Minimalist Theory* (pp. 88-124). Cambridge: Cambridge University Press.

Hopp, H. (2004). Syntactic and interface knowledge in advanced and near-native grammars. In S. Foster-Cohen, M. S. Smith, A. Sorace, & M. Ota (Eds.), *EuroSLA Yearbook 4* (pp. 67-94). Amsterdam: John Benjamins.

Hopp, H. (2007). *Ultimate attainment at the interfaces in second language acquisition: Grammar and processing.* (PhD thesis), University of Groningen, the Netherlands.

Hopp, H. (2009). The syntax–discourse interface in near-native L2 acquisition: Off-line and on-line performance. *Bilingualism: Language and Cognition, 12*(04), 463-483.

Hopp, H. (2010). Ultimate attainment in L2 inflection: Performance similarities between non-native and native speakers. *Lingua, 120*(4), 901-931.

Horst, M., White, J., & Bell, P. (2010). First and second language knowledge in the language classroom. *International Journal of Bilingualism, 14*(3), 331-349.

Hulstijn, J., & de Graaff, R. (1994). Under what conditions does explicit knowledge of a second language facilitate the acquisition of implicit knowledge? A research proposal. *AILA Review, 11*, 97-112.

Hyams, N. (1983). *The acquisition of parameterized grammars.* (PhD thesis), MIT, Massachussets.

Hyams, N. (1986). *Language acquisition and the theory of parameters*. Dordrecht: Reidel.

Ionin, T., Ko, H., & Wexler, K. (2004). Article semantics in L2 acquisition: The role of specificity. *Language Acquisition, 12*(1), 3-69.

Ionin, T., Montrul, S., & Santos, H. (2011). An experimental investigation of the expression of genericity in English, Spanish and Brazilian Portuguese. *Lingua, 121*(5), 963-985.

Isabelli, C. (2004). The acquisition of the null subject parameter properties in SLA: Some effects of positive evidence in a naturalistic learning context. *Hispania, 87*(1), 150-162.

Ivanov, I. P. (2009). Topicality and clitic doubling in L2 Bulgarian: A test case for the Interface Hypothesis. In M. Bowles, T. Ionin, S. Montrul, & A. Tremblay (Eds.), *Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference (GASLA 2009)* (pp. 17-24). Somerville, MA: Cascadilla Press.

Ivanov, I. P. (2012). L2 acquisition of Bulgarian clitic doubling: A test case for the Interface Hypothesis. *Second Language Research, 28*(3), 345-368.

Ivanova, I., Pickering, M. J., McLean, J. F., Costa, A., & Branigan, H. P. (2012). How do people produce ungrammatical utterances? *Journal of Memory and Language, 67*(3), 355-370.

Jackendoff, R. (1974). *Semantic interpretation in generative grammar*. Cambridge: Cambridge University Press.

Jackendoff, R. (2002). *Foundations of language: Brain, meaning, grammar, evolution*. Oxford: Oxford University Press.

Jaeger, T. F. (2008). Categorical data analysis: Away from ANOVAs (transformation or not) and towards logit mixed models. *Journal of Memory and Language, 59*(4), 434-446.

Johnson, J. S., & Newport, E. L. (1989). Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language. *Cognitive Psychology, 21*, 60-99.

Johnson, J. S., & Newport, E. L. (1991). Critical period effects on universal properties of language: the status of subjacency in the acquisition of a second language. *Cognition, 39*, 215-258.

Jones, M. A. (1996). *Foundations of French syntax*. Cambridge/New York: Cambridge University Press.

Judy, T. (2011). L1/L2 parametric directionality matters: More on the Null Subject Parameter in L2 acquisition. *EUROSLA Yearbook, 1*, 165-190.

Judy, T., & Rothman, J. (2010). From a superset to a subset grammar and the semantic compensation hypothesis: Subject pronoun and anaphora resolution evidence in L2 English. In K. Franich, K. M. Iserman, & L. L. Keil (Eds.), *BUCLD 34: Proceedings of*

the 34th annual Boston University Conference on Language Development (pp. 197-208). Somerville, MA: Cascadilla Press.

Kampers-Manhe, B., Marandin, J.-M., Drijkoningen, F., Doetjes, J., & Hulk, A. (2004). Subject NP inversion. In F. Corblin & H. De Swart (Eds.), *Handbook of French Semantics* (pp. 553-577). Standford: CSLI Publications.

Kato, M., & Martins, A. M. (2016). European Portuguese and Brazilian Portuguese: An overview on word order. In L. Wetzels, S. Menuzzi, & J. Costa (Eds.), *The handbook of Portuguese linguistics* (pp. 15-40). Hoboken, NJ: Wiley-Blackwell.

Kiss, K. (1998). Identificational focus versus information focus. *Language, 74*, 245-273.

Kizu, M. (2013). L2 acquisition of null subjects in Japanese: A new generative perspective and its pedagogical implications. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 35-55). Dordrecht: Springer Netherlands.

Kraš, T. (2009). The lexicon-syntax interface in L2 Italian: Ne-cliticisation with intransitive verbs. In M. Bowles (Ed.), *Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference (GASLA 2009)* (pp. 220-230). Somerville, MA: Cascadilla Proceedings Project.

Kraš, T. (2010). Unaccusativity in L2 Italian at the lexicon-syntax interface. In M. Iverson (Ed.), *Proceedings of the 2009 Mind/Context Divide Workshop* (pp. 60-71). Somerville, MA: Cascadilla Proceedings Project.

Kraš, T. (2011). Acquiring the syntactic constraints on auxiliary change under restructuring in L2 Italian: Implications for the Interface Hypothesis. *Linguistic Approaches to Bilingualism, 1*(4), 413-438.

Krashen, S. (1982). *Principles and practice in second language acquisition*. Oxford: Pergamon.

Krashen, S., & Terrell, T. (1988). *The Natural Approach: Language acquisition in the classroom*. New York: Prentice Hall

Kratzer, A. (1995). Stage-level and individual-level predicates. In G. N. Carlson & F. J. Pelletier (Eds.), *The generic book* (pp. 125-175). Chicago: Chicago University Press.

Kreyer, R. (2006). *Inversion in modern written English: Syntactic complexity, information status and the creative writer*. Tübingen: Gunter Narr Verlag.

Krifka, M. (2007). Basic notions of information structure. *Interdisciplinary Studies on Information Structure, 6*, 13-56.

Kumaravadivelu, B. (2006). TESOL methods: Changing tracks, challenging trends. *TESOL Quarterly, 40*(1), 59-81.

Kuno, S., & Takami, K. (2004). *Functional constraints in grammar: On the unergative–unaccusative distinction*. Amsterdam: John Benjamins.

Kuroda, S.-Y. (1972). The categorical and the thetic judgment. *Foundations of Language, 2*, 153-185.

Kuroda, S.-Y. (1992). *Japanese syntax and semantics: Collected papers*. Dordrecht: Kluwer Academic Publishers.

Kuroda, S.-Y. (2005). Focusing on the matter of topic: A study on wa and ga in Japanese. *Journal of East Asian Linguistics, 14*, 1-58.

Labelle, M. (1992). Change of state and valency. *Journal of Linguistics, 28*(2), 375-414.

Lahousse, K. (2003). *The distribution of postverbal nominal subjects in French. A syntactic, semantic and pragmatic analysis.* (PhD thesis), Université de Louvain & Université Paris 8 Louvain / Paris.

Lahousse, K. (2006). NP subject inversion in French: two types, two configurations. *Lingua, 116*(4), 424-461.

Lahousse, K. (2007). Implicit stage topics: A case study in French. *Discours, 1*, 1-23.

Lahousse, K. (2011). *Quand passent les cigognes. Le sujet nominal postverbal en français contemporain*. Paris: Presses Universitaires Vincennes.

Lahousse, K. (2014). L'inversion nominale dans les phrases simples: Syntaxe et structure de l'information. In F. Neveu, P. Blumenthal, L. Hriba, A. Gerstenberg, J. Meinschaefer, & S. Prévost (Eds.), *Actes du CMLF 2014- 4ème Congrès Mondial de Linguistique Française* (pp. 2457 - 2471). Berlin: EDP Sciences.

Lambrecht, K. (1994). *Information structure and sentence form*. Cambridge: Cambridge University Press.
Landau, I. (2010). *The locative syntax of experiencers*. Cambridge, MA: The MIT Press.
Lardiere, D. (1998). Case and tense in the fossilized steady state. *Second Language Research, 14*, 1-26.
Lardiere, D. (2007). *Ultimate attainment in second language acquisition* Mahweh, NJ: Lawrence Erlbaum.
Lardiere, D. (2011). Who is the Interface Hypothesis about? *Linguistic Approaches to Bilingualism, 1*(1), 48-53.
Lasnik, H. (1995). Case and Expletives Revisited: On Greed and Other Human Failings. *Linguistic Inquiry, 26*(4), 615-633.
Law, P. (1999). On the passive existential construction. *Studia Linguistica, 53*(3), 183-208.
Le Bidois, R. (1952). *L'inversion du sujet dans la prose contemporaine (1900-1950)*. Paris: D'Artrey.
Leal, T., & Slabakova, R. (2017). The relationship between L2 instruction, exposure, and the L2 acquisition of a syntax–discourse property in L2 Spanish. *Language Teaching Research*. doi:10.1177/1362168817745714
Legendre, G. (1994). *Topics in French syntax*. London / New York: Routledge.
Legendre, G., Smolensky, P., & Culbertson, J. (2016). Blocking effects at the lexicon/semantics interface and bidirectional optimization in French. In G. Legendre, M. Putnam, H. De Swart, & E. Zaroukian (Eds.), *Optimality theoretic syntax, semantics, and pragmatics: From uni- to bidirectional optimization* (pp. 276-299). Oxford: Oxford University Press.
Leonetti, M. (2014). Spanish VSX. In K. Lahousse & S. Marzo (Eds.), *Romance Languages and Linguistic Theory 2012: Selected papers from 'Going Romance' Leuven 2012* (pp. 37-64). Amsterdam: John Benjamins.
Leonetti, M. (2016). Definiteness effects: The interplay of information structure and pragmatics. In S. Fischer, T. Kupisch, & E. Rinke (Eds.), *Definiteness effects: Bilingual, typological and diachronic variation* (pp. 66-118). Newcastle Upon Tyne: Cambridge Scholars Publishing.
Levin, B. (1993). *English verb classes and alternations: A preliminary investigation*. Chicago / London: The Chicago University Press.
Levin, B., & Rappaport Hovav, M. (1995). *Unaccusativity at the syntax-lexical semantics interface*. Cambridge, MA: MIT Press.
Li, S. (2010). The effectiveness of corrective feedback in SLA: A meta-analysis. *Language Learning, 60*(2), 309-365.
Liceras, J. (1989). On some properties of the "pro-drop" parameter: Looking for missing subjects in non-native Spanish. In S. M. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 109-133). Cambridge: Cambridge University Press.
Lightbown, P. (1998). The importance of timing in focus on form. In C. J. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 177-196). Cambridge: Cambridge University Press.
Lightbown, P. (2013). Learner readiness. In C. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 3247–3250). Malden Blackwell.
Linck, J., & Cunnings, I. (2015). The utility and application of mixed-effects models in second language research *Language Learning, 65*, 185-207.
Lobo, M. (2013). Sujeito nulo: Sintaxe e interpretação. In E. B. P. Raposo, M. F. Bacelar do Nascimento, M. A. C. d. Mota, L. Segura, & A. Mendes (Eds.), *Gramática do português* (pp. 2309-2335). Lisboa: Fundação Calouste Gulbenkian.
Lobo, M. (2016). Sujeitos nulos: Gramática do adulto, aquisição de L1 e variação dialetal. In A. M. Martins & E. Carrilho (Eds.), *Manual de linguística portuguesa* (pp. 459-481). Berlin: Mouton de Gruyter.
Lobo, M., & Martins, A. M. (2017). Subjects. In A. Dufter & E. Stark (Eds.), *Manual of Romance morphosyntax and syntax* (pp. 27-88). Berlin/Boston: De Gruyter.

Long, D., & Rothman, J. (2013). Generative approaches and the competing systems hypothesis: Formal acquisition to pedagogical application. In J. W. Schwieter (Ed.), *Innovative research and practices in second language acquisition and bilingualism* (pp. 63-84). Amsterdam: John Benjamins.

Long, M. (1990). Maturational constraints on language development. *Studies in Second Language Acquisition, 12*(3), 251-285.

Long, M. (1991). Focus on form: A design feature in language teaching methodology. In K. de Bot, R. B. Ginsberg, & C. Kramsch (Eds.), *Foreign language research in cross-cultural perspective* (pp. 39-52). Amsterdam: John Benjamins.

Lopez, E. (2017). Teaching the English article system: Definiteness and specificity in linguistically-informed instruction. *Language Teaching Research*. doi:10.1177/1362168817739649

Lozano, C. (2002). The interpretation of overt and null pronouns in non-native Spanish. *Durham Working Papers in Linguistics, 8*, 53-66.

Lozano, C. (2003). *Universal Grammar and focus constraints: The acquisition of pronouns and word order in non-native Spanish.* (PhD thesis), University of Essex, United Kingdom.

Lozano, C. (2006a). The development of the syntax-discourse interface: Greek learners of Spanish. In V. Torrens & L. Escobar (Eds.), *The Acquisition of Syntax in Romance Languages*. Amsterdam: John Benjamins.

Lozano, C. (2006b). Focus and split-intransitivity: The acquisition of word order alternations in non-native Spanish. *Second Language Research, 22*(2), 145-187.

Lozano, C. (2008a). ¿Déficits de representación o de procesamiento en una segunda lengua? Evidencia de un estudio de resolución de anáfora con griegos adultos aprendices de español. In A. Monroy & A. Sanchez (Eds.), *25 años de Lingüística Aplicada en España: Hitos y retos / 25 Years of Applied Linguistics in Spain: Milestones and Challenges* (pp. 855-866). Murcia: Editum.

Lozano, C. (2008b). Variability and optionality in second language grammars: A quantitative approach. In A. Linde López, J. Santana Lario, & C. Wallhead Salway (Eds.), *Studies in honour of Neil McLaren: A man for all seasons* (pp. 59-75). Granada: Editorial Universidad de Granada.

Lozano, C. (2014). Word order in second language Spanish. In K. Geeslin (Ed.), *The handbook of spanish second language acquisition* (pp. 287-310). Oxford: Wiley-Blackwell.

Lozano, C., & Mendikoetxea, A. (2008). Postverbal subjects at the interfaces in Spanish and Italian learners of L2 English: A corpus analysis. In G. Gilquin, S. Papp, & M. B. Díez-Bedmar (Eds.), *Linking up contrastive and corpus learner research* (pp. 85-125). Amsterdam: Rodopi.

Lozano, C., & Mendikoetxea, A. (2010). Interface conditions on postverbal subjects: A corpus study of L2 English *Bilingualism: Language and Cognition, 13*(04), 475-497.

Lumsden, M. (1988). *Existential sentences: Their structure and meaning*. London: Croom Helm.

Mackey, A., & Goo, J. (2007). Interaction research in SLA: A meta-analysis and research synthesis. In A. Mackey (Ed.), *Conversational interaction in second language acquisition: A series of empirical studies* (pp. 407-453). Oxford: Oxford University Press.

Mackey, A., & Philp, J. (1998). Conversational interaction and second language development: Recasts, responses, and red herrings? *The Modern Language Journal, 82*(3), 338-356.

Madeira, A., Xavier, M. F., & Crispim, M. d. L. (2009). A aquisição de sujeitos nulos em português L2. *Estudos da Língua(gem) / Estudos em Aquisição de L1 e L2, 7*(2), 163-198.

Madeira, A., Xavier, M. F., & Crispim, M. d. L. (2010). Interpretação semântica e/ou pragmático-discursiva de sujeitos na aquisição de português L2. In A. M. Brito, F. Silva, & J. Veloso (Eds.), *Textos Seleccionados do XXV Encontro Nacional da Associação Portuguesa de Linguística* (pp. 513-529). Lisboa: Edições Colibri.

Madeira, A., Xavier, M. F., & Crispim, M. d. L. (2012). Uso e interpretação de sujeitos pronominais em português L2. In A. Costa, C. Flores, & N. Alexandre (Eds.), *Textos*

Selecionados do XXVII Encontro da Associação Portuguesa de Linguística (pp. 376-397). Lisboa: APL.

Manzini, R., & Wexler, K. (1987). Parameters, Binding Theory and learnability. *Linguistic Inquiry, 18*(3), 413-444.

Marandin, J.-M. (2001). Unaccusative inversion in French. In Y. D'Hulst, J. Rooryck, & J. Schroten (Eds.), *Romance Languages and Linguistic Theory 1999* (pp. 195-222). Amsterdam: John Benjamins.

Marandin, J.-M. (2003). Inversion du sujet et structure de l'information dans les langues romanes. In D. Godard (Ed.), *Langues romanes. Problèmes de la phrase simple*. Paris: Éditions du CNRS.

Margaza, P., & Bel, A. (2006). Null subjects at the syntax-pragmatics interface: Evidence from Spanish interlanguage of Greek speakers. In M. G. O'Brien, C. Shea, & J. Archibald (Eds.), *Proceedings of GASLA 2006* (pp. 88-97). Somerville, MA: Cascadilla Press.

Marsden, H., & Slabakova, R. (2018). Grammatical meaning and the second language classroom: Introduction. *Language Teaching Research*. doi:10.1177/1362168817752718

Martins, A. M. (2010). *Constituent order in simple (and root) declarative clauses*.

Martins, A. M., & Costa, J. (2016). Ordem dos constituintes frásicos: Sujeitos invertidos; objetos antepostos. In A. M. Martins & E. Carrilho (Eds.), *Manual de Linguística Portuguesa* (pp. 371-400). Berlin/Boston: De Gruyter.

Matos, G. (2013). Quotative inversion in Peninsular Portuguese and Spanish, and in English. *2013, 12*, 20.

McManus, K., & Marsden, E. (2016). L1 explicit instruction can improve L2 online and offline performance. *Studies in Second Language Acquisition, 39*(3), 459-492.

McNally, L. (2011). Existential sentences. In C. Maienborn, K. v. Heusinger, & P. Portner (Eds.), *Semantics: An international handbook of natural language meaning* (pp. 1829–1848). Berlin: de Gruyter.

Meisel, J. M. (2008). Child second language acquisition or successive first language acquisition? In B. Haznedar & E. Gavruseva (Eds.), *Current trends in child second language acquisition: A generative perspective* (pp. 55-80). Amsterdam / Philadelphia: John Benjamins

Mendes, C., & Iribarren, I. C. (2007). Fixação do parâmetro do sujeito nulo na aquisição do português europeu por hispanofalantes. In M. Lobo & M. A. Coutinho (Eds.), *Textos seleccionados do XXII Encontro Nacional da Associação Portuguesa de Linguística* (pp. 483-498). Lisboa: Associação Portuguesa de Linguística.

Mendikoetxea, A. (2006a). Some notes on the syntactic, semantic and pragmatic properties of locative inversion in English. In M. Carretero, L. H. Downing, J. Lavid, E. M. Caro, S. P. d. Ayala, & E. Sánchez-Pardo (Eds.), *A Pleasure of Life in Words. A Festschrift for Angela Downing*. Madrid: Universidad Complutense.

Mendikoetxea, A. (2006b). Unergatives that 'become' unaccusatives in English locative inversion: A lexical-syntactic approach. In C. Copy & L. Gournay (Eds.), *Points de vue sur l'inversion. Cahiers de recherche en grammaire anglaise de l'énonciation* (pp. 133-155). Paris: Éditions Orphys.

Meng, M., & Bader, M. (2000). Ungrammaticality detection and garden-path strength: Evidence for serial parsing. *Language and Cognitive Processes, 15*, 615-666.

Milsark, G. (1974). *Existential sentences in English.* (PhD thesis), MIT, USA.

Miyake, A., & Friedman, N. P. (2012). The nature and organization of individual differences in executive functions: Four general conclusions. *Current Directions In Psychological Science, 21*(1), 8-14.

Montalbetti, M. (1984). *After binding.* (PhD thesis), MIT, USA.

Montrul, S. (2004). Psycholinguistic evidence for split intransitivity in Spanish second language acquisition. *Applied Psycholinguistics, 25*, 239-267.

Montrul, S. (2005a). On knowledge and development of unaccusativity in Spanish L2 acquisition. *Linguistics, 43*, 1153-1190.

Montrul, S. (2005b). Second language acquisition and first language loss in adult early bilinguals: Exploring some differences and similarities. *Second Language Research, 21*, 199-249.

Montrul, S., & Bowles, M. (2008). Negative evidence in instructed heritage language acquisition: A preliminary study of differential object marking. In M. Bowles (Ed.), *Selected Proceedings of the 2007 Second Language Research Forum* (pp. 252-262). Somerville, MA: Cascadilla Proceedings Project.

Montrul, S., & Bowles, M. (2010). Is grammar instruction beneficial for heritage language learners? Dative case marking in Spanish. *The Heritage Language Journal, 7*(1), 47-73.

Montrul, S., & Rodríguez-Louro, C. (2006). Beyond the syntax of the Null Subject Parameter: A look at the discourse-pragmatic distribution of null and overt subjects by L2 learners of Spanish. In L. Escobar & V. Torrens (Eds.), *The acquisition of syntax in Romance languages* (pp. 46-124). Amsterdam: John Benjamins.

Morgado, S., Costa, J., & Luegi, P. (2014). *O processamento de pronomes nulos e plenos em português europeu. Efeito da animacidade do antecedente.* Paper presented at the XXX Encontro Nacional da Associação Portuguesa de Linguística, Oporto, Portugal.

Morgado, S., Lobo, M., & Luegi, P. (2017). *Efeitos de animacidade do antecedente na interpretação de pronomes sujeito*. Paper presented at the XXXIII Encontro Nacional da Associação Portuguesa de Linguística, Évora, Portugal.

Nava, E., & Zubizarreta, M. L. (2010). Deconstructing the nuclear stress algorithm: Evidence from second language speech. In N. Erteschik-Shir & L. Rochman (Eds.), *The sound patterns of syntax* (pp. 291-316). Oxford / New York: Oxford University Press.

Nicolis, M. (2008). The null subject parameter and correlating properties: The case of Creole languages. In T. Biberauer (Ed.), *The limits of syntactic variation* (pp. 271-294). Amsterdam: John Benjamins.

Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning, 50*(3), 417-528.

Norris, J. M., & Ortega, L. (2001). Does type of instruction make a difference? Substantive findings from a meta-analytic review. *Language Learning, 51*, 157-213.

O'Grady, W. (1998). The syntax of idioms. *Natural Language and Linguistic Theory, 16*, 279–312.

O'Grady, W., Lee, M., & Kwak, H.-Y. (2009). Emergentism and second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* Bingley: Emerald Group.

Oshita, H. (2004). Is there anything there when there is not there? Null expletives and second language data. *Second Language Research, 20*(2), 95-130.

Paradis, J., & Navarro, S. (2003). Subject realization and crosslinguistic interference in the bilingual acquisition of Spanish and English: What is the role of the input? *Journal of Child Language, 30*(2), 371-393.

Peirce, J. (2007). PsychoPy—Psychophysics software in Python. *Journal of Neuroscience Methods, 162*(1), 8-13.

Peirce, J. (2009). Generating stimuli for neuroscience using PsychoPy. *Frontiers in Neuroinformatics, 2*(10).

Pereira, C. (1998). *Inversão locativa em português.* (MA dissertation), Universidade do Porto, Portugal.

Pérez-Leroux, A. T., & Glass, W. (1999). Null anaphora in Spanish second language acquisition: Probabilistic versus generative approaches. *Second Language Research, 15*, 220-249.

Perlmutter, D. M. (1978). Impersonal passives and the unaccusative hypothesis. *Annual Meeting of the Berkeley Linguistics Society*, 34.

Pesetsky, D., & Torrego, E. (2001). T-to-C movement: Causes and consequences. In M. Kenstowicz (Ed.), *Ken Hale: A life in language*. Cambridge, MA: The MIT Press.

Phinney, M. (1987). The pro-drop parameter in second language acquisition. In T. Roeper & E. Williams (Eds.), *Parameter setting* (pp. 221-238). Dordrecht: Reidel.

Pica, T. (1983). Adult acquisition of english as a second language under different conditions of exposure. *Language Learning, 33*(4), 465-497.
Pickering, M. J., & Branigan, H. P. (1998). The representation of verbs: Evidence from syntactic priming in language production. *Journal of Memory and Language, 39*(4), 633-651.
Pickering, M. J., & Branigan, H. P. (1999). Syntactic priming in language production. *Trends in Cognitive Sciences, 3*(4), 136-141.
Pickering, M. J., & Ferreira, V. S. (2008). Structural priming: A critical review. *Psychological Bulletin, 134*(3), 427-459.
Pienemann, M. (1984). Psychological constraints on the teachability of languages. *Studies in Second Language Acquisition, 6*(2), 186-214.
Pienemann, M. (1989). Is language teachable? Psycholinguistic experiments and hypotheses. *Applied Linguistics, 10*(1), 52-79.
Pinto, M. (1997). *Licensing and interpretation of inverted subjects in Italian.* (PhD thesis), Utrechts Instituut voor Linguistiek.
Pollock, J.-Y. (1989). Verb movement, universal grammar and the structure of IP. *Linguist Inquiry, 20,* 365-424.
Prado-Alonso, C. (2011). *Full-verb inversion in written and spoken English*. Bern: Peter Lang.
Pratas, F. (2002). *O sistema pronominal do Caboverdiano.* (MA dissertation), Universidade Nova de Lisboa.
Prentza, A. (2013). Pronominal subjects in English L2 acquisition and in L1 Greek: Issues of interpretation, use and L1 transfer. In N. Lavidas, T. Alexiou, & A. M. Sougari (Eds.), *Major trends in theoretical and applied linguistics 2: Selected papers from the 20th ISTAL*. London: Versita.
Prentza, A., & Tsimpli, I. (2013). The interpretability of features in second language acquisition: Evidence from null and postverbal subjects in L2 English. *Journal of Greek Linguistics, 13,* 323-365.
Prince, E. (1981). Toward a taxonomy of given/new information. In P. Cole (Ed.), *Radical pragmatics* (pp. 223-254). New York: Aademic Press.
Prince, E. (1992). The ZPG letter: Subjects, definiteness, and information-status In S. Thompson & W. Mann (Eds.), *Discourse description: Diverse analyses of a fundraising text* (pp. 295-325). Amsterdam: John Benjamins Publishing.
Pym, A., Malmkjær, K., & Gutiérrez-Colón, M. d. M. (2013). *Translation and language learning: The role of translation in the teaching of languages in the European Union*. Luxembourg: European Commission.
Quené, H., & van den Bergh, H. (2004). On multi-level modeling of data from repeated measures designs: a tutorial. *Speech Communication, 43*(1), 103-121.
Quené, H., & van den Bergh, H. (2008). Examples of mixed-effects modeling with crossed random effects and with binomial data. *Journal of Memory and Language, 59*(4), 413-425.
Radford, A. (2009). *Analysing English sentences: A minimalist approach*. Cambridge: Cambridge University Press.
Ramchand, G., & Reiss, C. (Eds.). (2007). *The Oxford handbook of linguistic interfaces*. Oxford: Oxford University Press.
Rankin, T. (2013). Verb movement in generative SLA and the teaching of word order patterns. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 57-76). Dordrecht: Springer Netherlands.
Rankin, T., & Unsworth, S. (2016). Beyond poverty: Engaging with input in generative SLA. *Second Language Research, 32*(4), 563-572.
Rees-Miller, J. (2017). Second language pedagogy: Where theory meets practice. In M. Aronoff & J. Rees-Miller (Eds.), *The Handbook of Linguistics* (pp. 583-602). New York: John Wiley & Sons, Ltd.
Reinhart, T. (1981). Pragmatics and Linguistics: an analysis of Sentence Topics. *Philosophica, 27*.
Reinhart, T. (1995). Interface strategies. *OTS Working Papers.*

Reinhart, T. (1999). The processing cost of reference-set computation: guess patterns in acquisition. *OTS Working Papers in Linguistics*.
Reinhart, T. (2006). *Interface strategies: Optimal and costly computations*. Cambridge, MA: MIT Press.
Riegel, M., Pellat, J.-C., & Rioul, R. (1994). *Grammaire méthodique du français*. Paris: Quadrige/PUF.
Rizzi, L. (1982). *Issues on Italian syntax*. Dordrecht: Foris.
Rizzi, L. (1986). Null objects in Italian and the theory of pro. *Linguistic Inquiry, 17*(3), 501-557.
Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegeman (Ed.), *Elements of grammar: A handbook of generative syntax* (pp. 281-337). Dordrecht: Kluwer.
Rizzi, L. (2003). On the form of chains: Criterial positions and ECP effects. In L. Cheng & N. Corver (Eds.), *On Wh movement*. Cambridge, MA: The MIT Press.
Rizzi, L., & Shlonsky, U. (2006). Satisfying the subject criterion by a non subject: English locative inversion and heavy NP shift. In M. Frascarelli (Ed.), *Phases of interpretation* (pp. 341-362). Berlin: Mouton de Gruyter.
Roberts, I. (2004). *Some consequences of a deletion analysis of null subjects* Paper presented at the LAGB, Surrey, UK.
Roberts, I. (2010). A deletion analysis of null subjects. In T. Biberauer, A. Holmberg, I. Roberts, & M. Sheehan (Eds.), *Parametric variation: Null subjects in Minimalist Theory* (pp. 58-87). Cambridge: Cambridge University Press.
Roberts, I., & Holmberg, A. (2010). Introduction: Parameters in minimalist theory. In T. Biberauer, A. Holmberg, I. Roberts, & M. Sheehan (Eds.), *Parametric variation: Null subjects in minimalist theory* (pp. 1-58). Cambridge: Cambridge University Press.
Rochemont, M., & Culicover, P. (1990). *English focus constructions and the theory of grammar*. Cambridge: Cambridge University Press.
Roebuck, R. F., Martínez-Arbelaiz, M., & Pérez-Silva, J. (1999). Null subjects, filled CPs and L2 acquisition. *Second Language Research, 15*(3), 251-282.
Rothman, J. (2007). Pragmatic solutions for syntactic problems: Understanding some L2 syntactic errors in terms of pragmatic deficits. In S. Baauw, F. Drijkoningen, & M. Pinto (Eds.), *Romance Languages and Linguistic Theory 2005* (pp. 297-318). Amsterdam: John Benjamins.
Rothman, J. (2009). Pragmatic deficits with syntactic consequences? L2 pronominal subjects and the syntax–pragmatics interface. *Journal of Pragmatics, 41*, 951-973.
Rothman, J. (2010). Theoretical linguistics meets pedagogical practice: Pronominal subject use in Spanish as a second language. *Hispania, 93*(1), 52-65.
Rothman, J., & Iverson, M. (2007a). On L2 clustering and resetting the null subject parameter in L2 Spanish: Implications and observations. *Hispania, 90*(2), 329-342.
Rothman, J., & Iverson, M. (2007b). The syntax of null subjects in L2 spanish: Comparing two L2 populations under different exposure. *Revista Española de Lingüistica Aplicada, 20*, 185-214.
Rothman, J., & Slabakova, R. (2011). The mind-context divide: On acquisition at the linguistic interfaces. *Lingua, 121*(4), 568-576.
Rowlett, P. (2007). *The syntax of French*. Cambridge: Cambridge University Press.
Ruiz de Zarobe, Y. (1998). El parámetro pro-drop y la adquisición del inglés como segunda lengua. *ITL - International Journal of Applied Linguistics, 119*(1), 49-63.
Russell, J., & Spada, N. (2006). The effectiveness of corrective feedback for the acquisition of L2 grammar. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 133-164). Amsterdam: John Benjamins.
Rutherford, W. (1989). Interlanguage and pragmatic word order. In S. M. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 163-182). Cambridge: Cambridge University Press.
Salzmann, M. (2013). Repair-driven verb movement in English locative inversion. In P. Brandt & E. Fuß (Eds.), *Repairs. The added value of being wrong* (pp. 155-206). Berlin: Mouton de Gruyter.

Sasse, H.-J. (1987). The thetic/categorical distinction revisited. *Linguistics, 25*, 511-580.
Savignon, S. (1983). *Communicative competence: Theory and classroom practice*. Reading: Addison-Wesley.
Savignon, S. (2004). Communicative Language Teaching. In M. Byram (Ed.), *Routledge encyclopedia of language teaching and learning* (pp. 124-129). London / New York: Routledge.
Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11*, 129-158.
Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics, 13*, 206-226.
Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction.* (pp. 3-32). Cambridge / New York: Cambridge University Press.
Schütter, J. S. (2013). *An investigation into near-nativeness at the syntax-lexicon interface: Evidence from Dutch learners of English.* (PhD thesis), University of Edinburgh, United Kingdom.
Schwartz, B. D. (1986). The epistemological status of second language acquisition. *Second Language Research, 2*(2), 120-159.
Schwartz, B. D. (1993). On explicit and negative data effecting and affecting competence and linguistic behavior. *Studies in Second Language Acquisition, 15*(2), 147-163.
Schwartz, B. D. (2004). Why child L2 acquisition? . In J. Van Kampen & S. Baauw (Eds.), *Proceedings of Generative Approaches to Language Acquisition 2003* (pp. 47-66). Utrecht: LOT Publications.
Schwartz, B. D., & Gubala-Ryzak, M. (1992). Learnability and grammar reorganization in L2A: Against negative evidence causing the unlearning of verb movement. *Second Language Research, 8*(1), 1-38.
Schwartz, B. D., & Sprouse, R. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research, 12*, 40-72
Serratrice, L., Sorace, A., & Paoli, S. (2004). Crosslinguistic influence at the syntax–pragmatics interface: Subjects and objects in English–Italian bilingual and monolingual acquisition. *Bilingualism: Language and Cognition, 7*(3), 183-205.
Sheehan, M. (2004). An interface analysis of verb subject inversion in Romance. *Durham Working Papers in Linguistics, 10*.
Sheehan, M. (2007). *The EPP and null subjects in Romance.* (PhD thesis), Newcastle University, United Kingdom.
Sheehan, M. (2010). 'Free' inversion in Romance and the null subject parameter. In T. Biberauer, A. Holmberg, I. Roberts, & M. Sheehan (Eds.), *Parametric variation: Null subjects in minimalist theory* (pp. 231-262). Cambridge: Cambridge University Press.
Sheehan, M. (2016). Subjects, null subjects and expletives in Romance. In S. Fischer & C. Gabriel (Eds.), *Manual of grammatical interfaces in Romance* (pp. 329-362). Berlin/Boston: De Gruyter.
Shimanskaya, E., & Slabakova, R. (2017). L1–L2 differences in the L2 classroom: Anticipating Anglophone learners' difficulties with French pronoun interpretation. *Language Teaching Research*. doi:10.1177/1362168817739650
Shimpi, P. M., Gámez, P. B., Huttenlocher, J., & Vasilyeva, M. (2007). Syntactic priming in 3- and 4-year-old children: Evidence for abstract representations of transitive and dative forms. *Developmental Psychology, 43*(6), 1334-1346.
Slabakova, R. (2002). The compounding parameter in second language acquisition. *Studies in Second Language Acquisition, 24*(4), 507-540.
Slabakova, R. (2003). Semantic evidence for functional categories in interlanguage grammars. *Second Language Research, 19*(1), 42-75.
Slabakova, R. (2008). *Meaning in the second language*. Berlin: Mouton de Gruyter.
Slabakova, R. (2009). What is easy and what is hard to acquire in a second language? . In M. Bowles (Ed.), *Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference (GASLA 2009)* Somerville, MA: Cascadilla Proceedings Project.

Slabakova, R. (2014). The bottleneck of second language acquisition. *Foreign Language Teaching and Research, 46*(4), 543-559.

Slabakova, R. (2015a). The effect of construction frequency and native transfer on second language knowledge of the syntax–discourse interface. *Applied Psycholinguistics, 36*(3), 671-699.

Slabakova, R. (2015b). Is there a firewall between declarative knowledge and procedural knowledge of the functional morphology: A response to Paradis. *Foreign Language Teaching and Research, 4*, 619-623.

Slabakova, R. (2016). *Second language acquisition*. Oxford: Oxford University Press.

Slabakova, R., & García Mayo, M. d. P. (2013). Whether to teach and how to teach complex linguistic structures in a second language. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 187-205). Dordrecht: Springer Netherlands.

Slabakova, R., Kempchinsky, P., & Rothman, J. (2012). Clitic-doubled left dislocation and focus fronting in L2 Spanish: A case of successful acquisition at the syntax–discourse interface. *Second Language Research, 28*(3), 319-343.

Slabakova, R., Rothman, J., & Kempchinsky, P. (2011). Gradient competence at the syntax-discourse interface. In L. Roberts, G. Pallotti, & C. Bettoni (Eds.), *EuroSLA Yearbook 11* (pp. 218-243). Amsterdam: John Benjamins.

Slabakova, R., Rothman, J., Leal Mendez, T., Campos, G., & Kempchinsky, P. (2011). Pragmatic features at the L2 syntax-discourse interface. In N. Danis, K. Mesh, & H. Sung (Eds.), *BUCLD 35: Proceedings of the 35th annual Boston University Conference on Language Development* (pp. 564-576). Sommerville, MA: Cascadilla Press.

Sorace, A. (1992). *Lexical conditions on syntactic knowledge: Auxiliary selection in native and non-native grammars of Italian.* (PhD thesis), University of Edinburgh, United Kingdom.

Sorace, A. (1993). Incomplete vs. divergent representations of unaccusativity in non-native grammars of Italian. *Second Language Research, 9*(1), 22-47.

Sorace, A. (2000). Gradients in auxiliary selection with intransitive verbs. *Language, 76*(4), 859-890.

Sorace, A. (2003). Near-nativeness. In C. J. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 130-151). Oxford: Blackwell.

Sorace, A. (2004). Gradience at the lexicon–syntax interface: Evidence from auxiliary selection. In A. Alexiadou, M. Everaert, & A. Elena (Eds.), *The unaccusativity puzzle* (pp. 243-268). Oxford: Oxford University Press.

Sorace, A. (2005). Selective optionality in language development. In L. Cornips & K. P. Corrigan (Eds.), *Syntax and variation: Reconciling the biological and the social* (pp. 55-80). Amsterdam: John Benjamins.

Sorace, A. (2006). Gradience and optionality in mature and developing grammars. In G. Fanselow, C. Fery, M. Schlesewsky, & R. Vogel (Eds.), *Gradience in grammars: Generative perspectives* (pp. 106-123). Oxford: Oxford University Press.

Sorace, A. (2011a). Cognitive advantages in bilingualism: Is there a 'bilingual paradox'? In P. Valore (Ed.), *Multilingualism. Language, power, and knowledge* (pp. 335-358). Pisa: Edistudio.

Sorace, A. (2011b). Gradience in split intransitivity: The end of the unaccusative hypothesis? *Archivio Glottologico Italiano, 96*(1), 67-86.

Sorace, A. (2011c). Pinning down the concept of 'interface' in bilingualism. *Linguistic Approaches to Bilingualism, 1*, 1-33.

Sorace, A. (2012). Pinning down the concept of 'interface' in bilingualism – A reply to peer commentaries. *Linguistic Approaches to Bilingualism, 2*, 209-216.

Sorace, A. (2016). Referring expressions and executive functions in bilingualism. *Linguistic Approaches to Bilingualism, 6*(5), 669-684.

Sorace, A., & Filiaci, F. (2006). Anaphora resolution in near-native speakers of Italian. *Second Language Research, 22*(3), 339-368.

Sorace, A., & Serratrice, L. (2009). Internal and external interfaces in bilingual language development: Beyond structural overlap. *International Journal of Bilingualism, 13*(2), 195-210.

Sorace, A., Serratrice, L., Filiaci, F., & Baldo, M. (2009). Discourse conditions on subject pronoun realization: Testing the linguistic intuitions of older bilingual children. *Lingua, 119*(3), 460-477.

Spada, N., & Lightbown, P. (1999). Instruction, first language influence, and developmental readiness in second language acquisition. *The Modern Language Journal, 83*(1), 1-22.

Spada, N., & Tomita, Y. (2010). Interactions between type of instruction and type of language feature: A meta-analysis. *Language Learning, 60*(2), 263-308.

Spector, B. (2003). Plural indefinite DPs as plural-polarity items. In J. Quer, J. Schroten, M. Scorretti, P. Sleeman, & E. Verheugd (Eds.), *Romance Languages and Linguistic Theory 2001: Selected papers from 'Going Romance', Amsterdam, 6–8 December 2001* (pp. 295-313). Amsterdam: John Benjamins.

Stowell, T. (1981). *Origins of phrase structure*. (PhD thesis), MIT, USA.

Strawson, P. F. (1964). Identifying reference and truth-values. *Theoria, 30*(2), 96-118.

Swain, M. (1985). Communicative competence: Some rules of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 235-253). Rowley: Newbury House.

Swain, M., & Lapkin, S. (1982). *Evaluating bilingual education. A Canadian case study*. Clevedon: Multilingual Matters.

Szabolcsi, A. (1981). The semantics of topic-focus articulation. In T. Janssen & M. Stockhof (Eds.), *Formal methods in the study of language* (pp. 513-540). Amsterdam: University of Amsterdam.

Trahey, M. (1996). Positive evidence in second language acquisition. *Second Language Research, 12*, 111-139.

Tsimpli, I., & Dimitrakopoulou, M. (2007). The Interpretability Hypothesis: Evidence from wh-interrogatives in second language acquisition. *Second Language Research, 23*(2), 215-242.

Tsimpli, I., & Roussou, A. (1991). Parameter-resetting in second language. *UCL Working Papers in Linguistics, 3*, 149-170.

Tsimpli, I., & Sorace, A. (2006). Differentiating interfaces: L2 performance in syntax–semantics and syntax–discourse phenomena *Proceedings of the 30th Annual Boston University Conference on Language Development* (pp. 653-664). Somerville, MA: Cascadilla Press.

Tsimpli, I., Sorace, A., Heycock, C., & Filiaci, F. (2004). First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. *International Journal of Bilingualism, 8*(3), 257-277.

UCLA Statistical Consulting Group. (2011). R library contrast coding systems for categorical variables. Retrieved from https://stats.idre.ucla.edu/r/library/r-library-contrast-coding-systems-for-categorical-variables/

Umeda, M., Snape, N., Yusa, N., & Wiltshier, J. (2017). The long-term effect of explicit instruction on learners' knowledge on English articles. *Language Teaching Research*. doi:10.1177/1362168817739648

Unsworth, S. (2007). Child L2, adult L2, child L1: Differences and similarities. A study on the acquisition of direct object scrambling in dutch. *Language Acquisition, 14*(2), 215-217.

Valenzuela, E., & McCormack, B. (2013). The syntax-discourse interface and the interface between generative theory and pedagogical approaches to SLA. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 101-114). Dordrecht: Springer Netherlands.

Vallduví, E. (1990). *The informational component*. (PhD thesis), University of Pennsylvania.

Van der Wal, J. (2012). Subject agreement and the EPP in Bantu agreeing inversion. *Cambridge Occasional Papers in Linguistics, 6*, 201-236.

VanPatten, B., & Rothman, J. (2015). What does current generative theory have to say about the explicit-implicit debate? In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp. 89-116). Amsterdam: John Benjamins Publishing.

Vega-Mendoza, M., West, H., Sorace, A., & Bak, T. (2015). The impact of late, non-balanced bilingualism on cognitive performance. *Cognition, 137*, 40-46.

Ward, G., & Birner, B. (1995). Definiteness and the English existential. *Language, 71*, 722-742.

Ward, G., Birner, B., & Huddleston, R. (2002). Information packaging. In R. Huddleston & G. K. Pullum (Eds.), *The Cambridge grammar of the English language* (pp. 1363-1447). Cambridge: Cambridge University Press.

Westergaard, M. (2009). *The acquisition of word order: Micro-cues, information structure, and economy*. Amsterdam: John Benjamins Publishing.

White, J., Muñoz, C., & Collins, L. (2007). The his/her challenge: Making progress in a 'regular' L2 programme. *Language Awareness, 16*(4), 278-299.

White, L. (1985). The "pro-drop" parameter in adult second language acquisition. *Language Learning, 35*(1), 47-61.

White, L. (1991). Adverb placement in second language acquisition: Some effects of positive and negative evidence in the classroom. *Second Language Research, 7*(2), 133-161.

White, L. (1992). On triggering data in L2 acquisition: a reply to Schwartz and Gubala-Ryzak. *Second Language Research, 8*(2), 120-137.

White, L. (2003a). Fossilization in steady state L2 grammars: Persistent problems with inflectional morphology. *Bilingualism: Language and Cognition, 6*, 129-141.

White, L. (2003b). *Second language acquisition and Universal Grammar*. Cambridge: Cambridge University Press.

White, L. (2009). Grammatical theory: Interfaces and L2 knowledge. In W. C. Ritchie & T. K. Bhatia (Eds.), *The new handbook of second language acquisition* (pp. 49-68). Leeds:: Emerald.

White, L. (2011a). The Interface Hypothesis: How far does it extend? *Linguistic Approaches to Bilingualism, 1*(1), 108-110.

White, L. (2011b). Second language acquisition at the interfaces. *Lingua, 121*(4), 577-590.

White, L. (2012). Universal Grammar, crosslinguistic variation and second language acquisition. *Language Teaching, 45*(3), 309-328.

White, L. (2013). Universal Grammar (UG) and SLA. In P. Robinson (Ed.), *The Routledge encyclopedia of second language acquistion* (pp. 670-674). London / New York: Routledge.

White, L. (2015). Linguistic theory, Universal Grammar, and second language acquisition. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction* (2nd Edition ed., pp. 34-53). London / New York: Routledge.

White, L., & Genesee, F. (1996). How native is near-native? The issue of ultimate attainment in adult second language acquisition. *Second Language Research, 12*(3), 233-265.

White, L., & Trahey, M. (1993). Positive evidence and pre-emption in the second language classroom. *Studies in Second Language Acquisition, 15*, 181-204.

Whong, M. (2013a). Applied Generative SLA: The need for an agenda and a methodology. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the second language classroom* (pp. 231-247). Dordrecht: Springer Netherlands.

Whong, M. (2013b). A linguistic perspective on communicative language teaching. *The Language Learning Journal, 41*(1), 115-128.

Whong, M., Gil, K.-H., & Marsden, H. (2013a). Introduction: Generative Second Language Acquisition and Language Pedagogy. In M. Whong, K.-H. Gil, & H. Marsden (Eds.), *Universal Grammar and the Second Language Classroom* (pp. 1-13). Dordrecht: Springer Netherlands.

Whong, M., Gil, K.-H., & Marsden, H. (Eds.). (2013b). *Universal Grammar and the second language classroom*. Dordrecht: Springer.

Whong, M., Gil, K.-H., & Marsden, H. (2014). Beyond paradigm: The 'what' and the 'how' of classroom research. *Second Language Research, 30*(4), 551-568.

Whong, M., Marsden, H., & Gil, K.-H. (2013). How we can learn from acquisition: The acquisition-learning debate revisited. In J. Cabrelli Amaro (Ed.), *Proceedings of the 12th Generative Approaches to Second Language Acquisition Conference (GASLA 2013)* (pp. 203-210). Somerville, MA: Cascadilla Proceedings Project.

Widdowson, H. G. (2000). Object language and the language subject: On the mediating role of applied linguistics. *Annual Review of Applied Linguistics, 20*, 21-33.

Widdowson, H. G. (2014). The role of translation in language learning and teaching. In J. House (Ed.), *Translation: A multidisciplinary approach* (pp. 222-240). London: Palgrave Macmillan.

Wilson, F. (2009). *Processing at the syntax–discourse interface in second language acquisition.* (PhD thesis), University of Edinburgh, United Kindgom.

Wilson, F., Sorace, A., & Keller, F. (2009). Antecedent preferences for anaphoric demonstratives in L2 German. In J. Chandlee, M. Franchini, S. Lord, & G.-M. Rheiner (Eds.), *BUCLD 33: Proceedings of the 33rd annual Boston University Conference on Language Development* (pp. 634-645). Sommerville, MA: Cascadilla Press.

Yang, C. (2002). *Knowledge and learning in natural language*. Oxford: Oxford University Press.

Yang, C., & Montrul, S. (2017). Learning datives: The Tolerance Principle in monolingual and bilingual acquisition. *Second Language Research, 33*(1), 119-144.

Yip, V. (1995). *Interlanguage and learnability: From Chinese to English*. Amsterdam: John Benjamins Publishing.

Zobl, H. (1989). Canonical typological structures and ergativity in English L2 acquisition. In S. M. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 203-221). Cambridge: Cambridge University Press.

Zubizarreta, M. L. (1998). *Prosody, focus, and word order*. Cambridge, MA: MIT Press.

Zubizarreta, M. L. (2016). Nuclear stress and information structure. In C. Féry & S. Ishihara (Eds.), *The Oxford handbook of information structure*. Oxford / New York: Oxford University Press.

Zubizarreta, M. L., & Nava, E. (2011). Encoding discourse-based meaning: Prosody vs. syntax. Implications for second language acquisition. *Lingua, 121*(4), 652-669.

List of tables and figures

Appendix A

Socio-linguistic questionnaires

A.1. Socio-linguistic questionnaire for L2ers

(Note: This questionnaire was designed and administered using Google Forms)

Participant no.: _____

Age: _____

Sex: ___ Female ___ Male

Birthplace (city, country): _____

What is/are your native language(s) (i.e. the language(s) you learned from birth to a native level)?

_____ European Portuguese
_____ French
_____ Other, please specify: _____

What is your mother's native language(s)?

_____ European Portuguese
_____ French
_____ Other, please specify: _____

What is your father's native language(s)?

_____ European Portuguese
_____ French
_____ Other, please specify: _____

Besides your native language(s), did you learn any other language before the age of 8?

_____ Yes _____ No
If you marked "yes", please specify:_____

How old were you when you started to learn English? _____

Was English the first non-native English you learned? _____ Yes _____ No
If you marked "no", please specify:_____

In what context(s) have you learned English? (Multiple answers possible)

(a) At school/university in a country where English is a foreign language
(b) At school/university in a country where English is (one of) the language(s) spoken by the larger community
(c) With friends and/or colleagues who are native speakers of English
(d) With family members who are native speakers of English
(e) Other, please specify:

For how long have you learned English? _____

How frequently do you use English in the following contexts?

At home: *Very frequently* | *frequently* | *sometimes* | *rarely* | *very rarely* | *never*

At work: *Very frequently* | *frequently* | *sometimes* | *rarely* | *very rarely* | *never Not applicable*

At the university: *Very frequently* | *frequently* | *sometimes* | *rarely* | *very rarely* | *never*

With friends: *Very frequently* | *frequently* | *sometimes* | *rarely* | *very rarely* | *never*

Is English your main language of communication in any of these contexts?

_____ Yes _____ No

If you marked "yes", please specify:_____

Have you ever lived in an English speaking country for more than 1 month? ___ Yes ___ No

If yes, please specify in which country(ies) you lived and for how long: _____

Which non-native languages do you speak? For each language, please indicate whether your level is ELEMENTARY, INTERMEDIATE or ADVANCED.

What is the highest educational degree you obtained?

Bachelor's degree
Master's degree
PhD
None of the above. I am an undergraduate student.

What is your field of study? _____

Are there any other factors that might influence your proficiency in English (e.g. dyslexia, language impairments, etc.)? _____ Yes _____ No

If you marked "yes", please specify:_____

A.2. Socio-linguistic questionnaire for English native speakers

(Note: This questionnaire was designed and administered using Google Forms)

Participant no.: _____

Age: _____

Sex: ___ Female ___ Male

Birthplace (city, country): _____

What is/are your native language(s) (i.e. the language(s) you learned from birth to a native level)?

_____ English
_____ Other, please specify: _____

What is your mother's native language(s)?

_____ English
_____ Other, please specify: _____

What is your father's native language(s)?

_____ English
_____ Other, please specify: _____

Have you ever lived in a non-English speaking country for more than 3 months?

___ Yes ___ No
If yes, please specify in which country(ies) you lived and for how long: _____

Which non-native languages do you speak? For each language, please indicate whether your level is ELEMENTARY, INTERMEDIATE or ADVANCED.

What is the highest educational degree you obtained?

Bachelor's degree
Master's degree
PhD
None of the above. I am an undergraduate student.

What is your field of study? _____

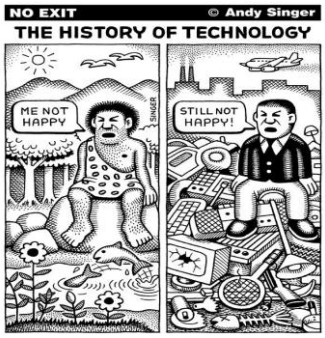
Are there any other factors that might influence your proficiency in English (e.g. dyslexia, language impairments, etc.)? _____ Yes _____ No

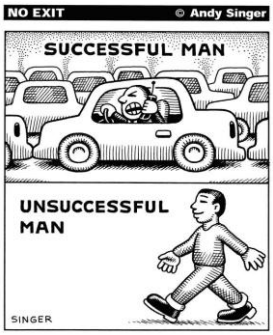
If you marked "yes", please specify:_____

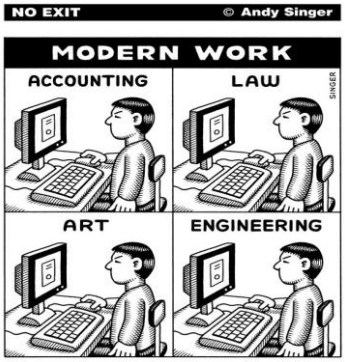
Appendix B

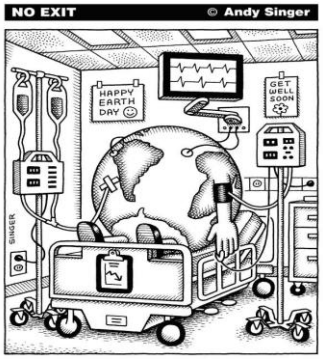
Materials for assessing near-nativeness

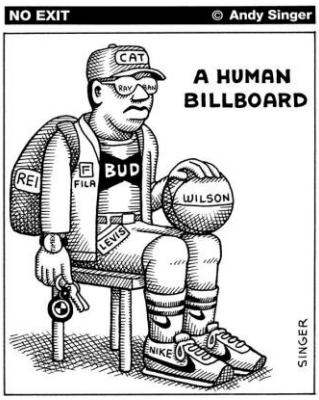
B.1. Cartoons used in the interviews











B.2. Instructions and grid provided to the evaluators

TASK

You will hear a sequence of speech samples which have been recorded from both native and non-native speakers of English. Your task is to evaluate each sample with respect to these criteria:

SYNTAX (e.g. word order)
MORPHOLOGY (e.g. accuracy of verb and noun inflections)
VOCABULARY (e.g. appropriateness/precision of words used)
PRONUNCIATION (e.g. accent, phonetic accuracy)
FLUENCY (e.g. rate of speech, ease of delivery)
OVERALL IMPRESSION (e.g. the extent to which the speaker speaks good English, on the basis of the above criteria).

You will be given an evaluation grid for each speaker you will hear. The grid has a continuous line next to each criterion, which is labelled 'non-native' at the left end and 'native' at the right end. Please, put a mark on each of these lines according to the closeness of the speech to the native end.

So, for example, if you feel that Speaker 1's vocabulary is fully native, mark the corresponding line like this:

VOCABULARY

NON-NATIVE_____X NATIVE

If your overall impression for Speaker 2 is that he/she is very good but not fully native, mark the corresponding line like this:

OVERALL IMPRESSION

NON-NATIVE_____X_____NATIVE

As we are interested in your first impressions, you will listen to each sample only once. The tape will be stopped at the end of each sample and we will start it again once you have completed your evaluation.

The task will last up to 3 hours and includes 2 breaks. Thank you for your collaboration!

ASSESSMENT GRID

Evaluator :_____

Let's practice!

SPEAKER 1

SYNTAX

NON-NATIVE_____NATIVE

MORPHOLOGY

NON-NATIVE_____NATIVE

VOCABULARY

NON-NATIVE_____NATIVE

FLUENCY

NON-NATIVE_____NATIVE

PRONUNCIATION

NON-NATIVE_____NATIVE

OVERALL IMPRESSION

NON-NATIVE_____NATIVE

That's it for the practice!

If you have any questions, ask the researcher now.

SPEAKER 2

SYNTAX

NON-NATIVE_____NATIVE

MORPHOLOGY

NON-NATIVE_____NATIVE

VOCABULARY

NON-NATIVE_____NATIVE

FLUENCY

NON-NATIVE_____NATIVE

PRONUNCIATION

NON-NATIVE_____NATIVE

OVERALL IMPRESSION

NON-NATIVE_____NATIVE

Appendix C

Tasks on SV-VS orders

Note: In all tasks, items were presented in random order. In the drag-and-drop task, the order of the blocks of words was also randomized.

C.1. Items used in the drag-and-drop task

Condition 1: Narrow focus context

1 Who arrived?
two surprise guests arrived

2 Who entered?
entered two tall men

3 Who came?
a Brazilian man came

4 Who appeared?
appeared four French students

5 Who died?
a famous singer died

6 Who fainted?
fainted a little boy

Condition 2: Sentence focus context

1 Why didn't you close the restaurant after I left? What happened?
arrived two new customers

2 Why were you staring at the door of the restaurant when I went to the toilet? What happened?
a strange man entered

3 Why did the robbers run away from the bank? What happened?
came two police officers

4 Why was she so happy yesterday? What happened?
a suitable donor appeared

5 Why were flags at half-mast yesterday? What happened?
died a war hero

6 Why were they so excited last night? What happened?
a cloned monkey was born

Fillers

1 A: Do you like ice-cream? B: Yes, I like…
ice-cream very much

2 A: Do you like chocolate? B: Yes, I like…
very much chocolate

3 A: Do you like pizza? B: Yes, I like…
pizza very much

4 A: Do you like spaghetti? B: Yes, I like…
very much spaghetti

5 A: Do you like yoghurt? B: Yes, I like…
yoghurt very much

6 A: Do you like broccoli? B: Yes, I like…
very much broccoli

7 A: Do you eat hamburgers? B: Yes, I eat…
hamburgers a lot

8 A: Do you eat cookies? B: Yes, I eat…
a lot cookies

9 A: Do you eat strawberries? B: Yes, I eat…
strawberries a lot

10 A: Do you eat brownies? B: Yes, I eat…
a lot brownies

11 A: Do you eat fish? B: Yes, I eat…
fish a lot

12 A: Do you eat bread? B: Yes, I eat…
a lot bread

C.2. Items used in the speeded acceptability judgement task

Condition 1: VS in narrow focus contexts

1 Who arrived?
arrived two drunken men

2 Who entered?
entered two bearded men

3 Who came?
came a little boy

4 Who appeared?
appeared four French students

5 Who died?

died a rock singer

6 Who fainted?

fainted an old lady

Condition 2: SV in narrow focus contexts

1 Who arrived?

four Brazilian tourists arrived

2 Who entered?

two old ladies entered

3 Who came?

a police officer came

4 Who appeared?

two grotesque figures appeared

5 Who died?

a famous actor died

6 Who fainted?

a frail patient fainted

Condition 3: VS in sentence focus contexts

1 Why didn't you close the restaurant after I left? What happened?

arrived four new customers

2 Why were you staring at the door of the restaurant when I went to the toilet? What happened?

entered two beautiful women

3 Why did the robbers run away from the bank? What happened?

came two police officers

4 Why was she so happy yesterday? What happened?

appeared a suitable donor

5 Why were the flags at half-mast yesterday? What happened?

died a famous writer

6 Why were they so excited last night? What happened?

was born a cloned sheep

Condition 4: SV in sentence focus contexts

1 Why didn't you close the restaurant after I left? What happened?

three regular customers arrived

2 Why were you staring at the door of the restaurant when I went to the toilet? What happened?

a handsome man entered

3 Why did the robbers run away from the bank? What happened?

two police officers came

4 Why was she so happy yesterday? What happened?

a new donor appeared

5 Why was the flag at half-mast yesterday? What happened?

a war hero died

6 Why were they so excited last night? What happened?

two cloned sheep were born

Fillers

1 Do you like ice-cream?

yes, I like ice-cream very much

2 Do you like chocolate?

yes, I like chocolate very much

3 Do you like pizza?

yes, I like pizza very much

4 Do you like George Clooney?

yes, I like him very much

5 Do you like your English teacher?

yes, I like her very much

6 Do you like your parents?

yes, I like them very much

7 Do you eat hamburgers?

yes, I eat hamburgers a lot

8 Do you eat cookies?

yes, I eat cookies a lot

9 Do you eat strawberries?

yes, I eat strawberries a lot

10 Do you eat brownies?

yes, I eat brownies a lot

11 Do you eat fish?

yes, I eat fish a lot

12 Do you eat bread?

yes, I eat bread a lot

13 Do you like spaghetti?

yes, I like very much spaghetti

14 Do you like yoghurt?

yes, I like very much yoghurt

15 Do you like jelly?

yes, I like very much jelly

16 Do you like my new car?

yes, I like very much it

17 Do you like Julia Roberts?

yes, I like very much her

18 Do you like your parents?

yes, I like very much them

19 Do you drink milk?

yes, I drink a lot milk

20 Do you drink tea?

yes, I drink a lot tea

21 Do you drink coffee?

yes, I drink a lot coffee

22 Do you drink orange juice?

yes, I drink a lot it

23 Do you drink coke?

yes, I drink a lot it

24 Do you drink water?

yes, I drink a lot it

Appendix D

Tasks on pronominal subjects

Note: In all tasks, items were presented in random order. In the drag-and-drop task, the order of the blocks of words was also randomized.

D.1. Items used in the drag-and-drop task

Note: All items included the following optional blocks of words – *he, him, himself* and *it*.

Condition 1: Expletive subject in the matrix clause

1 At first, the scientific community did not understand the pattern of transmission of AIDS. In the 1990s …
became clear that AIDS is transmitted through body fluids

2 The proponents of a military intervention did not seek the approval of the UN. At the time…
that the UN was against such intervention was clear

3 On Friday the city was covered in snow, but the weather improved over the weekend. On Monday …
snowed again

4 Storm Bella reached Baltimore on Friday morning, bringing heavy winds and rain. In the evening …
loudly thundered

Condition 2: Expletive subject in the embedded clause

1 Oscar Weissenborn, Edward's son, had to create his own machine for making pencils…
because at the time…
was impossible to buy this type of machine

2 The armed man pointed a gun towards us. We were terrified, because at that moment …
became obvious that he was prepared to kill us

3 You'd better take a pair of wellingtons with you, because Sophie told me that yesterday…
a lot rained

4 Louise and Arthur had to change their plans at the last minute, because in the evening…
snowed a lot

Condition 3: Referential subject in the matrix clause

1 In the morning, Mark seemed to be recovering well from the accident. In the evening …
of pain in the arm complained

2 Andrew got up at 7 o'clock, had breakfast and went to school. Later in the afternoon …
went to the Ipanema beach

3 Kenwood House is a historic building which dates back to the 18th century. In the past…
Council offices contained

4 The menu of the restaurant is very diverse and changes every day of the week. Yesterday…
included traditional Spanish dishes

Condition 4: Referential subjects in embedded clauses

1 John Terry could not play in yesterday's match against Manchester United, because during the warm-up …
suffered a minor injury

2 Bruce Hagen, the mayor of a northern Wisconsin city, is in hot water, because yesterday…
that Obama is a Muslim said

3 The 2004 Indian Ocean tsunami is considered the deadliest natural disaster in history, because in total …
killed 230 000 people

4 The new vaccine against rotavirus was recalled in the UK, because in the last two months …
severe cases of bowel disorder caused

Fillers

1 The band worked on new songs, presented their album to various record companies and…
SONY accepted

2 The proponents of a military intervention sought the approval of the UN Security Council, but …
rejected the Council members

3 The streets of New York were covered in snow, but during the night…
the snowblowers removed

4 You left my bicycle out in the rain. The bicycle has an expensive leather seat, and …
ruined the rain

5 Jackson graduated in 1989 and started his own business the following year, because at that time …

nobody employed

6 The armed man pointed a gun towards a group of students. When he started shooting, …

two policemen grabbed

7 Oscar A. Weissenborn, Edward's son, started working in the family's company in 1990, because …

fired his boss

8 Peter said that we don't need to pay to participate in the marathon. That's what…

one of the organizers told

9 Louise and Arthur didn't come to our party, because …

cut Arthur

10 "Hello, I'm Matt Jarvis from the Wolves" That's how …

Jarvis introduced

11 I think John will pass the exam. His father told me that this time...

prepared John

12 Djokovic beat Federer in four sets and took home the US Open title. During the match …

Federer hurt

13 Unfortunately, Sophie could not come to this year's MacMillan Annual Ball, because last week …

killed one of her friends

14 Bruce Hagen, the mayor of a northern Wisconsin city, is in the hospital, because yesterday …

Mr Hagen cut

15 "My name is Bond, James Bond" That's how …

introduced Mr Bond

16 Patrick persuaded Andrew to go with him to the party. Sophie told me that…

Andrew enjoyed

D.2. Items used in the speeded acceptability judgement task

Condition 1: Null expletive subject in the matrix clause

1 At first, the scientific community did not understand the pattern of transmission of AIDS.

in the 1990s became clear that this disease is transmitted through body fluids

2 The proponents of a military intervention did not seek the approval of the UN.

at the time was clear that the UN was against such action

3 Djokovic beat Federer in four sets and took home the US Open title.
during the match rained very hard

4 On Friday the city was covered in snow, but the weather improved over the weekend.
yesterday morning snowed again

Condition 2: Null expletive subject in the embedded clause

1 The armed man pointed a gun towards us. We were terrified …
because at that moment became obvious that he was ready to kill us

2 Steve Clinton graduated in 1979 and immediately decided to start his own business…
because at that time was difficult to find a job in computer engineering

3 The streets of New York are covered in a beautiful white blanket …
because yesterday snowed all day

4 Louise and Arthur had to change their plans at the last minute …
because yesterday rained a lot

Condition 3: Null referential subject in the matrix clause

1 In the morning, Mark seemed to be recovering well from the accident.
in the evening complained of pain in the arm

2 Mike Dumba was born in Austria and moved to the USA in the 1970s.
in 1982 purchased his first farm

3 The Midsteeple is a historic building which dates back to the 18th century.
in the past contained 100 prison cells

4 Katrina was one of the deadliest hurricanes in the history of the USA.
in Louisiana caused 1500 deaths

Condition 4: Null referential subject in the embedded clause

1 Bruce Hagen, the mayor of a northern Wisconsin city, is in hot water …
because on Friday said that Obama is a Muslim

2 Unfortunately, our friend Nathan could not come to this year's MacMillan Annual Ball…
because on Monday broke his left leg

3 The 2004 Indian Ocean tsunami is considered the deadliest natural disaster in history…
because in total killed 230.000 people

4 The zoo, which is the most famous in Germany, is worth a visit…
because last year received twenty new animals

Fillers

1 The band worked on new songs, presented their album to various record companies and…

SONY accepted it

2 I know that the virus of AIDS was isolated and identified in the early 1980s, but I don't know…

who discovered it

3 The armed man pointed a gun towards a group of students. When he started shooting,…

two police officers grabbed him

4 Peter said that we don't need to pay to participate in the marathon. That's what…

one of the organizers told him

5 Jackson graduated in 1989 and started his own business the following year…

because at that time nobody employed him

6 Oscar A. Weissenborn, Edward's son, started working in the family's company in 1990…

because his boss fired him

7 The streets of New York were covered in snow, but…

during the night the snow blowers removed it

8 Louise and Arthur arrived late …

because Arthur's father called him

9 "Hello, I'm Matt Jarvis from the Wolves" That's how …

Jarvis introduced himself

10 "My name is Bond, James Bond" That's how …

Mr Bond introduced himself

11 Louise and Arthur didn't come to our party …

because Arthur cut himself

12 John Terry could not play in yesterday's match against Manchester United …

because during the warm-up he hurt himself

13 Unfortunately, our friend Sophie could not come to this year's MacMillan Annual Ball…

because last week her brother killed himself

14 Bruce Hagen, the mayor of a northern Wisconsin city, is in the hospital …

because yesterday he cut himself

15 The actor Mark Travolta seemed to be recovering well from his depression, but …

yesterday he killed himself

16 I think John will pass the exam. His father told me that...

this time John prepared himself

Appendix E

Task on the misuse of “it’s” as an inflectional form

Note: The items below were presented in random order to all participants.

Condition 1: Null expletive subjects in embedded clauses

1 Why was John terrified?
because at that moment became clear that the man was a terrorist

2 Why did Oscar have to create his own machine for making pencils?
because at the time was impossible to buy this type of machine

3 Why did they cancel the picnic?
because yesterday snowed all day

4 Why did Louise change her plans?
because yesterday rained a lot

5 Why didn't the proponents of the military intervention seek the approval of the UN?
because at the time was clear that the UN was against such action

6 Why didn't you sleep last night?
because during the night thundered loudly

Condition 2: “it’s” used as a verbal form

1 Do you agree with Trump's views on Mexico?
No. In my opinion, the idea of building a wall between Mexico and the US it's completely absurd

2 Do you agree with Peter?
No. In my opinion, the plan of banning fossil fuel-based cars from city centres it's too drastic

3 Do you agree with the author of this article?
Yes. In my opinion, the objective of reaching a deficit of 0,5 percent by 2018 it's absolutely unrealistic

4 Do you like this restaurant?
Yes. The food it's delicious and affordable

5 Do you like this movie?
No. The storyline it's boring and predictable

6 Do you like our new house?
Yes. The house it's beautiful and spacious

Fillers

1 Why did you take Mark to the hospital?

Because he complained of pain in the arm

2 Why was Mike so happy?

Because he bought his first car yesterday

3 Why do so many people take photos of that building?

Because it dates back to the 13th century

4 Why is Bruce Hagen in hot water?

because he said that Obama is a terrorist

5 Why didn't Nathan come to the ball?

because he broke his leg

6 Why was the study considered very successful?

because it generated relevant results

7 Do you like ice-cream?

Yes. I like ice-cream very much

8 Does Peter like chocolate?

Yes. He likes chocolate very much

9 Do you like pizza?

No. I hate pizza

10 Do you agree with Maria?

No. In my opinion, Julia Roberts and Kate Winslet are great actresses

11 Do you agree with Miss Phelps?

Yes. In my opinion, John and Maria are the best students in the class

12 Do you agree with me?

No. In my opinion, milk and cheese are good for our health

13 Who arrived?

arrived two drunken men

14 Who entered?

entered two bearded men

15 Who came?

came a little boy

16 Who appeared?

appeared four French students

17 Who died?

died a rock singer

18 Who fainted?

fainted an old lady

19 Who arrived?

four Brazilian tourists arrived

20 Who entered?

two old ladies entered

21 Who came?

a police officer came

22 Who appeared?

two grotesque figures appeared

23 Who died?

a famous actor died

24 Who fainted?

a frail patient fainted

25 Why didn't you close the restaurant after I left? What happened?

arrived four new customers

26 Why were you staring at the door of the restaurant when I went to the toilet? What happened?

entered two beautiful women

27 Why did the robbers run away from the bank? What happened?

came two police officers

28 Why was she so happy yesterday? What happened?

appeared a suitable donor

29 Why were the flags at half-mast yesterday? What happened?

died a famous writer

30 Why were they so excited last night? What happened?

was born a cloned sheep

31 Why didn't you close the restaurant after I left? What happened?

three regular customers arrived

32 Why were you staring at the door of the restaurant when I went to the toilet? What happened?

a handsome man entered

33 Why did the robbers run away from the bank? What happened?

two police officers came

34 Why was she so happy yesterday? What happened?

a new donor appeared

35 Why was the flag at half-mast yesterday? What happened?

a war hero died

36 Why were they so excited last night? What happened?

two cloned sheep were born

Appendix F

Tasks on locative inversion

Note: In all tasks, items were presented in random order. In the drag-and-drop task, the order of the blocks of words was also randomized.

F.1. Items used in the drag-and-drop task on the variable "type of intransitive verb"

Condition 1: Unaccusative verbs of existence and appearance

1 We slept in an abandoned hut. In the morning, a sharp knock on the door woke us up. Slowly the door opened and...
into the hut came an old man

2 A woman answered the door – just what I did not need. She held a rifle at her side – another thing I did not need.
right behind her arrived a second woman

3 Abruptly, the room was illuminated by a red glow. The door in front of Neil, now revealed by the light, opened and…
through the door entered two green zombies

4 Peter stayed in the library for a couple of minutes. Suddenly the enormous wooden door of the library opened and...
in the doorway appeared a scary ghost

5 On the south bank of the river there was a very small town called Bonita, because of its beautiful green fields.
in this town lived a poor widower

6 Yesterday a committee of international specialists in counter-terrorism held a meeting in New York City, at the request of the United Nations.
from this meeting emerged two important recommendations

Condition 2: Unaccusative verbs of change of state

1 A gas explosion occurred yesterday in an 8-storey apartment building in central London. The explosion caused damage to the 8th and 7th floors.
on these floors broke five exterior windows

2 The first winter storm of the season hit Chicago on Monday, causing traffic jams in the streets of the city. Yesterday the weather conditions improved and…
on the streets melted a lot of snow

3 The Remembrance tree was planted here in 1919 in honour of the soldiers who never returned from the First World War. Unfortunately, last week…

into this tree smashed a school bus

4 As the music started, our attention was attracted towards the wooden stage of the theatre. Precisely at 8 o'clock, the curtain rose and…

on the stage exploded two light projectors

5 When John enters the kitchen, all sorts of disasters happen. Yesterday he decided to cook dinner using our new microwave and guess what happened.

in the microwave burned an apple pie

6 Due to the bad weather, there was a long power cut yesterday. The backup generators did not work in the central canteen and ...

in this canteen defrosted two large fridges

Condition 3: Redundant unergative verbs

1 Everyone on the boat turned to look. Henry wasn't lying. There, in a little-deserted patch of sand, was an enormous old boat.

on its mast waved two black flags

2 The front hallway of the mansion was covered in dust and spider webs. A green wall could be seen in the distance.

on that wall ticked an enormous clock

3 The bottom of the sea was a mass of brilliant colour, with waving fronds of multicoloured plants and bright seashells everywhere.

around the plants swam many colourful fish

4 The boat made a slow, two-and-a-half-hour journey through the cavernous harbour. Visible on deck were half a dozen men in Maltese costume.

above these men fluttered a red flag

5 'Have you seen this?' Kate, the future Mrs Jones, proudly thrust her left hand under our noses.

on her finger glittered an enormous diamond

6 To the right, I could see the top of one of Portland's many bridges, one I may have crossed once but I can't recall.

above the bridge flew flocks of seagulls

Condition 4: Non-redundant unergative verbs

1 I have happy memories of my childhood in Gary. I lived near a grocery store owned by a family of Chinese immigrants.

at this store shopped many local residents

2 While I was drinking my coffee, a woman opened the door and called out to a friend across the street, letting in a cloud of cold air.

next to me laughed a bearded man

3 Haistcha was in his tepee. He was seriously wounded, but somehow found the strength to get back up on his knees. Tears drenched his face.

outside the tepee talked two young men

4 The church was full of people. Stanley's coffin was draped with an American flag to honour his years in the Air Force.

behind the coffin vomited a little girl

5 The enormous central library was in a state of decay. Most history books were completely covered in dust and spider webs.

near those books sneezed many library users

6 A large group of tourists entered the church and sat in the pews near the altar and its famous stained glass window.

In the church coughed an old woman

Fillers

1 We slept in an abandoned hut. In the morning, when we woke up, we heard someone shout our name. All of a sudden...

a rescue team opened the door of the hut

2 Banks make massive efforts to get us to spend money. On Saturday John received ten credit offers in his mail and today …

the postman delivered another five offers

3 As the music started, our attention was attracted towards the large stage of the theatre. At 8 o'clock, the curtain rose and ...

a gospel choir sang the national anthem

4 Peter stayed in the library for a couple of hours. He was about to leave when suddenly the door of the library opened and …

an old woman brought the book that he wanted

5 Battle is a picturesque town in East Sussex, England, which grew up around an eleventh-century abbey built by William the Conqueror. In 2015…

the abbey received two thousand visitors

6 In October 2005 a committee of international specialists in counter-terrorism was convened at the request of the United Nations.

the committee proposed new guidelines

7 I have happy memories of the time when I lived in Gary. My house was located between the pharmacy and Mr Smith's supermarket.

the supermarket had great toys

8 The Parisian café Les Deux Magots was a place of great intellectual activity in the early decades of the 20th century. In 1933…

this café created a literary prize for young writers

9 The procession passed in front of a 16th-century monastery, which has a large circular window ornamented with various figures of saints, and...

the monks read a passage from the Bible

10 Lieutenant George King's coffin was draped with an American flag to honour his years in the Air Force. During the memorial service…

George's father gave a memorable eulogy

11 The central library was in a state of decay. Its bookcases were completely covered in dust and spider webs. For this reason, …

the mayor built a new library

12 A large group of old ladies entered the church and sat in the pews near the altar. Then, at 12 o'clock,…

a young priest celebrated the mass

13 Our alarm went off in the middle of the night. Far in the distance, we could see a ship coming towards us.

our legs trembled with fear

14 The front hallway of the mansion was covered in dust. A staircase could be seen in the distance. Suddenly, near the staircase…

Count Vlad morphed into a vampire

15 At the centre of the Royal Palace's garden there is a greenhouse in Art Nouveau style. This is the place where …

the prince proposed to his girlfriend

16 Michael and Anna's wedding ceremony was absolutely beautiful. It took place in a small chapel in San Francisco. One month before the ceremony…

Michael converted to Christianity

17 Mrs Rothschild wore a long black dress and a fur coat which looked like a fox. When she entered the stage…

the audience screamed with excitement

18 From the summit Francis, Eve, Tom and Emma could see meandering rivers and snow-capped peaks in the far distance. Here …

the group prayed for peace

19 Yesterday there was a gas explosion in an 8-storey apartment building in central London. The explosion caused damage to the top floors and…

a person died of a heart attack

20 The worst snow storms of the season reached Chicago on Monday, covering streets and parks in a white blanket. During the weekend...

the local authorities prepared for all scenarios

21 Aunt Julie and Uncle Tom decided to decorate their backyard with colourful balloons and banners to celebrate my 16th birthday, and …

my mom approved of the idea

22 The auditorium was packed, but we managed to find two empty seats. The play didn't start at 8 o'clock, as scheduled, and ...

many people complained of the delay

23 When John enters the kitchen, all sorts of disasters happen. Yesterday he wanted to cook dinner, but…

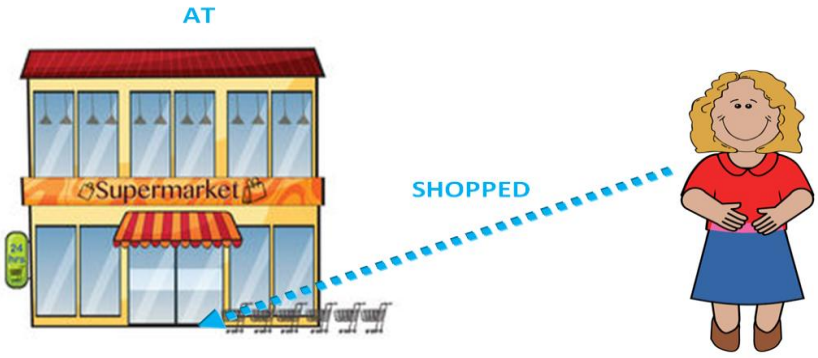
everyone disapproved of the idea

24 Due to the bad weather, there was a long power cut yesterday and the backup generators didn't work in the central canteen.

the university apologised for the inconvenience caused

F.2. Items used in the syntactic priming task on the variable "type of intransitive verb"

Note: The prime sentence was presented in written form. The target sentence was elicited through images. For example, to determine whether or not participants produce a sentence like "at the supermarket shopped a woman" under priming conditions, the following image was used.



Condition 1: Unaccusative verbs of existence and appearance

1 Prime: from the lake emerged a crocodile

from the cave came a bear

2 Prime: into the cave came a witch

into the room arrived a man

3 Prime: through the door came a policeman

through the door entered a princess

4 Prime: in the cave lived a witch

in the castle appeared a ghost

5 Prime: in the church arrived a priest
in the cave lived a dragon

6 Prime: from the castle came a princess
from the lake emerged a crocodile

Condition 2: Unaccusative verbs of change of state

1 Prime: in the restaurant defrosted a fridge
in the castle broke a window

2 Prime: in the castle broke a mirror
in the park melted a snowman

3 Prime: on the road exploded a box
on the table dried a shirt

4 Prime: on the table melted an ice-cream
on the stage exploded a projector

5 Prime: in the kitchen dried a towel
in the castle burned a flag

6 Prime: in the oven burned a cake
in the factory defrosted a fridge

Condition 3: Redundant unergative verbs

1 Prime: on the table glittered a ring
on the mast waved a flag

2 Prime: in the bowl swam a fish
in the castle ticked a clock

3 Prime: in the library ticked a clock
in the bowl swam a fish

4 Prime: above the trees flew a bird
above the tower fluttered a flag

5 Prime: on the mast waved a flag
on the table glittered a diamond

6 Prime: above the tower fluttered a flag
above the trees flew a bird

Condition 4: Non-redundant unergative verbs

1 Prime: at the bus stop sneezed a man
at the supermarket shopped a woman

2 Prime: in the castle coughed a princess
in the church talked a man

3 Prime: in the factory talked a fire-fighter
in the castle laughed a princess

4 Prime: on the stage laughed a princess
on the road vomited a man

5 Prime: in the cave vomited a witch
in the factory sneezed a fire-fighter

6 Prime: in the library vomited a man
in the cave coughed a witch

Fillers

1 Prime: the man baked a cake
the fire-fighter opened a door

2 Prime: the witch opened a door
the woman bought a book

3 Prime: the fire-fighter bought a cake
the princess hugged a man

4 Prime: the man hugged a princess
the man closed a door

5 Prime: the king closed a door
the fire-fighter received a cake

6 Prime: the man received a book
the witch ate a cake

7 Prime: the princess ate a cake
the man built a library

8 Prime: the queen built a castle
the princess read a book

9 Prime: the doctor read a book
the woman wrote a book

10 Prime: the witch wrote a book
the man delivered a pizza

11 Prime: the woman delivered a cake
a princess sold a clock

12 Prime: the king sold a castle
the man baked a cake

13 Prime: the door opened a firefighter
the cake baked a woman

14 Prime: the book bought a princess

the door opened a witch

15 Prime: the cake bought a firefighter
the cat saved a firefighter

16 Prime: the door closed a man
the bird hugged a man

17 Prime: the book received a firefighter
the door closed a witch

18 Prime: the cake ate a princess
the book received a man

19 Prime: the castle built a man
the cake ate a princess

20 Prime: the book read a witch
the castle built a man

21 Prime: the book wrote a man
the book read a witch

22 Prime: the pizza delivered a man
the book wrote a man

23 Prime: the ring sold a princess
the cake delivered a woman

24 Prime: the cake baked a man
the castle sold a woman

F.3. Items used in the speeded acceptability judgement task on the variable "type of intransitive verb"

Condition 1: Unaccusative verbs of existence and appearance

1 We slept in an abandoned house. In the morning, a sharp knock on the door woke us up. Slowly the door opened and...
into the house came a bearded man

2 A man answered the door – just what I did not need. He held a rifle at his side – another thing I did not need.
right behind him arrived a tall woman

3 Abruptly, the room was illuminated by a red glow. The door in front of Neil, now revealed by the light, opened.
through the door entered two red zombies

4 As the music started, our attention was attracted towards the wooden stage of the theatre. Then, at 8 o'clock, the curtain rose and…

on the stage appeared a gospel singer

5 There was once a very small Indian village on the edge of a lake in the land of the Wabanaki people, and...
in this village lived three little sisters

6 In October 2005 a committee of international specialists in global warming held a meeting in Los Angeles, at the request of the United Nations.
from this meeting emerged two interesting proposals

Condition 2: Unaccusative verb of change of state

1 A gas explosion occurred yesterday in an 8-storey apartment building in central London. The explosion caused damage to the 8th floor.
on this floor broke five large windows

2 Another winter storm hit New York on Monday, causing traffic jams in the streets of the city. Yesterday the weather conditions improved and…
on the streets melted a lot of snow

3 This tree was planted here in 1919, in honour of the soldiers who never returned from the First World War. Unfortunately, last week…
into the tree smashed a red car

4 The auditorium was packed, but we managed to find two empty seats near the stage. Precisely at 8 o'clock, the curtain rose and…
on the stage exploded a light projector

5 When John enters the kitchen, all sorts of disasters happen. Yesterday he decided to cook dinner using our new microwave and guess what happened.
in the microwave burned a mince pie

6 Due to the bad weather, there was a long power cut yesterday. The backup generators did not work in the central canteen and ...
in this canteen defrosted two large fridges

Condition 3: Redundant unergative verbs

1 Everyone on the boat turned to look. He wasn't lying. There, in a little-deserted patch of sand, was an enormous old boat.
on its mast waved a black flag

2 The front hallway of the mansion was covered in dust and spider webs. A green wall could be seen in the distance.
on that wall ticked an enormous clock

3 The bottom of the sea was a mass of brilliant colour, with waving fronds of multicoloured plants and bright seashells everywhere.

around the plants swam many orange fish

4 The boat made a slow, two-and-a-half-hour journey through the cavernous harbour. Visible on deck were half a dozen men in Maltese costume.
above these men fluttered multicoloured silk banners

5 'Have you seen this?' Kate, the future Mrs Jones, proudly thrust her left hand under our noses.
on her finger glittered an enormous diamond

6 To the Left, I could see the top of one of London's many bridges, one I may have crossed once but I can't recall.
above the bridge flew flocks of seagulls

Condition 4: Non-redundant unergative verbs

1 I have happy memories of my childhood in San Francisco. I lived next to a supermarket owned by a family of Indian immigrants.
at this supermarket shopped many old ladies

2 While he was reading the menu above the counter, a woman opened the door and called out to a friend across the street, letting in a cloud of cold air.
near the counter laughed two bald men

3 Haistcha was in his tepee. He was seriously wounded, but somehow found the strength to get back up on his knees. Tears drenched his face.
outside the tepee talked two tall men

4 St. George's Anglican Church was packed with well-wishers from as far away as New York City. It was an unusually hot day.
in the church vomited four young children

5 The enormous central library was in a state of decay. Some bookcases were completely covered in dust and spider webs.
near those bookcases sneezed many library users

6 A large group of tourists entered the church and sat in the pews near the altar and its famous stained glass window.
on the altar coughed an old lady

Fillers

1 We slept in an abandoned hut. In the morning, when we woke up, we heard someone shout our name. All of a sudden...
a rescue team opened the door of the hut

2 Banks make massive efforts to get us to spend money. On Saturday John received ten credit offers in his mail and today …
the postman delivered another five offers

3 As the music started, our attention was attracted towards the large stage of the theatre. At 8 o'clock, the curtain rose and...

a gospel choir sang the national anthem

4 Peter stayed in the library for a couple of hours. He was about to leave when suddenly the door of the library opened and …

an old woman brought the book that he wanted

5 Battle is a picturesque town in East Sussex, England, which grew up around an eleventh-century abbey built by William the Conqueror. In 2015…

the abbey received two thousand visitors

6 In October 2005 a committee of international specialists in counter-terrorism was convened at the request of the United Nations.

the committee proposed new guidelines

7 Our alarm went off in the middle of the night. Far in the distance, we could see a ship coming towards us.

our legs trembled with fear

8 The front hallway of the mansion was covered in dust . A staircase could be seen in the distance. Suddenly, near the staircase…

Count Vlad morphed into a vampire

9 At the centre of the Royal Palace's garden there is a greenhouse in Art Nouveau style. This is the place where …

the prince proposed to his girlfriend

10 Michael and Anna's wedding ceremony was absolutely beautiful. It took place in a small chapel in San Francisco. One month before the ceremony…

Michael converted to Christianity

11 Mrs Rothschild wore a long black dress and a fur coat which looked like a fox. When she entered the stage…

the audience screamed with excitement

12 From the summit Francis, Eve, Tom and Emma could see meandering rivers and snow-capped peaks in the far distance. Here …

the group prayed for peace

13 I have happy memories of the time when I lived in Gary. My house was located between the pharmacy and Mr Smith's supermarket.

great toys had the supermarket

14 The Parisian café Les Deux Magots was a place of great intellectual activity in the early decades of the 20th century. In 1933…

a literary prize created this café

15 The procession passed in front of a 16th-century monastery, which has a large circular window ornamented with various figures of saints, and...
a passage from the bible read the monks

16 Lieutenant George King's coffin was draped with an American flag to honour his years in the Air Force. During the memorial service…
a memorable eulogy gave George's father

17 The central library was in a state of decay. Its bookcases were completely covered in dust and spider webs. For this reason, …
a new library built the mayor

18 A large group of old ladies entered the church and sat in the pews near the altar. Then, at 12 o'clock,…
the mass celebrated a young priest

19 Yesterday there was a gas explosion in an 8-storey apartment building in central London. The explosion caused damage to the top floors and…
of a heart attack died a person

20 The worst snow storms of the season reached Chicago on Monday, covering streets and parks in a white blanket. During the weekend...
for all scenarios prepared the local authorities

21 Aunt Julie and Uncle Tom decided to decorate their backyard with colourful balloons and banners to celebrate my 16th birthday, and …
of the idea approved my mom

22 The auditorium was packed, but we managed to find two empty seats. The play didn't start at 8 o'clock, as scheduled, and ...
of the delay complained many people

23 When John enters the kitchen, all sorts of disasters happen. Yesterday he wanted to cook dinner, but…
of the idea disapproved everyone

24 Due to the bad weather, there was a long power cut yesterday and the backup generators didn't work in the central canteen.
for the inconvenience caused apologized the university

F.4. Items used in the drag-and-drop task on the variable "type of discourse context"

Notes: All items included the following optional blocks of words – *there* and *it*. This is because I used most of the items in this drag-and-drop task to simultaneously test locative inversion and *there*-constructions.

Condition 1: Locative topic + narrow subject focus

1 A: Who came into the room? B:
into the room came two little boys

2 A: Who arrived into the room? B:
into the room arrived two young women

3 A: Who entered through the backdoor? B:
through the backdoor entered a rock singer

4 A: Who appeared in the restaurant? B:
in the restaurant appeared a famous writer

5 A: Who lived in this house? B:
in this house lived two old ladies

6 A: Who emerged from the cave? B:
from the cave emerged a muscular man

Condition 2: Topical subject + locative focus

1 A: Do you know anything about the new students? B: Yes.
from Northern Ireland came some of them

2 A: Why are you talking about my students? What did they do? B:
at the campsite arrived two of them

3 A: Why is everybody talking about our 7th-grade students? What did they do? B:
through the backdoor entered two of them

4 A: Why is everybody talking about our 7th-grade students? What did they do? B:
on the stage appeared some of them

5 A: Do you know anything about the new students? B: Yes.
in South Africa lived two of them

6 A: Do you have any news of the fishing boats which disappeared last week? B: Yes.
near the beach emerged some of them

Condition 3: All focus

1 A: Why were the organisers surprised? What happened? B:
from South America came many conference delegates

2 Why was John's bodyguard worried? What happened? B:
in the mail arrived a death threat

3 A: Why does Anna need the camera? What happened? B:
through the backdoor entered two famous actors

4 A: Why did they take the camera? What happened? B:
in the sky appeared a beautiful rainbow

5 A: Why are you surprised at what you're reading? What happened? B:

on the street lived two French ministers

6 A: Why are you worried? What have you read in the newspaper? B:
in Northern Ireland emerged an Ebola-related virus

Fillers

1 A: Who opened the door? B:
a scary man opened the door

2 A: Who ate the apple? B:
a little boy ate the apple

3 A: Who proposed this solution? B:
a good economist proposed this solution

4 A: Why is everybody talking about our fifth-grade students? What did they do? B:
some of them broke this window

5 A: Why is everybody talking about our English students? What did they do? B:
most of them passed the exam

6 A: Why is everybody talking about our fifth-grade students? What did they do? B:
some of them vandalized the school

7 A: Why were people screaming? What happened? B:
a dog bit a little girl

8 A: Why were you watching BBC News? What happened? B:
the police arresteda terrorist

9 A: Why did John leave in a hurry? What happened? B:
his mother called him

10 A: Who shouted at you? B:
an angry driver shouted at me

11 A: Who applied for the job? B:
three Brazilian immigrants applied for the job

12 A: Who complained of the food? B:
two regular customers complained of the food

13 A: Why is everybody talking about our fifth-grade students? What did they do? B:
some of them hid from us

14 A: Why is everybody talking about our former students? What did they do? B:
most of them answered a questionnaire

15 A: Why is everybody talking about our fifth grade students? What did they do? B:
some of them complained about the food

16 A: Why were they nervous? What happened? B:
their mother met with the headteacher

17 A: Why were they relieved? What happened? B:
their mother recovered from her illness

18 A: Why were they worried? What happened? B:
their son converted to a different religion

F.5. Items used in the speeded acceptability judgement task on the variable "type of discourse context"

Condition 1: Locative topic + narrow subject focus

1 Who came into the room?
into the room came two little boys

2 What arrived from South Africa?
from South Africa arrived two large parcels

3 Who entered through the backdoor?
through the backdoor entered a famous writer

4 Who appeared on the stage?
on the stage appeared a rock band

5 Who lived in this house?
in this house lived two old ladies

6 What emerged from the lake?
from the lake emerged an enormous crocodile

Condition 2: Topical subject + locative focus

1 A: Do you know anything about the new students? B: Yes
from the Netherlands came some of them

2 A: Do you have any news of the tennis players who were missing? B: Yes
at the hotel arrived two of them

3 Why is everybody talking about our sixth-grade students? What did they do?
through the backdoor entered two of them

4 Why is everybody talking about our seventh-grade students? What did they do?
on BBC News appeared some of them

5 A: Do you know anything about the new students? B: Yes
in South Africa lived two of them

6 A: Do you have any news of the fishing boats which disappeared last week? B: Yes.
near the beach emerged some of them

Condition 3: All focus

1 Why were the organisers surprised? What happened?
from Central Africa came many conference delegates

2 Why was his security team worried? What happened?
in the mail arrived a death threat

3 Why does Kate need the camera? What happened?
through the backdoor entered two famous singers

4 Why did they take the camera? What happened?
in the sky appeared a huge rainbow

5 Why are you surprised at what you're reading in the newspaper? What happened?
on the street lived two French ministers

6 Why are you surprised at what you're reading in the newspaper? What happened?
in Liverpool hospital emerged a Legionella outbreak

Fillers

1 Who opened the door?
a scary man opened the door

2 Who ate the apple?
a little boy ate the apple

3 Why is everybody talking about our fifth-grade students? What did they do?
some of them broke a window

4 Why is everybody talking about our English students? What did they do?
most of them passed the exam

5 Why were people screaming? What happened?
a dog bit a little girl

6 Why were you watching BBC News? What happened?
the police arrested a terrorist

7 Who shouted at you?
an angry driver shouted at me

8 Who applied for the job?
three immigrants applied for the job

9 Why is everybody talking about our fifth-grade students? What did they do?
some of them hid from us

10 Why is everybody talking about my students? What did they do?
most of them answered the questionnaire

11 Why were they nervous? What happened?

their mother met with the headteacher

12 Why were they relieved? What happened?

their mother recovered from her illness

13 Who opened the door?

the door opened a scary man

14 Who ate the apple?

the apple ate a little boy

15 Why is everybody talking about our fifth-grade students? What did they do?

a window broke some of them

16 Why is everybody talking about our English students? What did they do?

the exam passed most of them

17 Why were they nervous? What happened?

with the headteacher met their mother

18 Why were they relieved? What happened?

from her illness recovered their mother

Appendix G

Tasks on presentational *there*-constructions

Note: In all tasks, items were presented in random order. In the drag-and-drop task, the order of the blocks of words was also randomized.

G.1. Items used in the drag-and-drop task on the variable "type of intransitive verb"

(Note: All items included the following optional blocks of words – *there* and *it*.)

Condition 1: Unaccusative verbs of existence and appearance

1 A: Tell me what happened afterwards in the story. B: It was dark and...
came a loud roar from a cave

2 A: Tell me what happened afterwards in the story. B: During the night...
arrived an urgent message from a warship

3 A: Tell me what happened afterwards in the story. B: It was dark and...
entered an old man through a door

4 A: Tell me what happened afterwards in the story. B: During the night...
appeared a scary ghost near a tombstone

5 A: Tell me what happened afterwards in the story. B: It was dark and...
occurred a terrible accident near a cliff

6 A: Tell me what happened afterwards in the story. B: During the night...
emerged a black monster from a lake

Condition 2: Unaccusative verbs of change of state

1 A: Tell me what happened afterwards in the story. B: During the night...
broke a large window in a room

2 A: Tell me what happened afterwards in the story. B: During the night...
melted a lot of snow in a backyard

3 A: Tell me what happened afterwards in the story. B: It was dark and...
smashed a sports car into a tree

4 A: Tell me what happened afterwards in the story. B: It was dark and...
exploded a light projector on a stage

5 A: Tell me what happened afterwards in the story. B: It was dark and...
burned a big statue in a square

6 A: Tell me what happened afterwards in the story. B: During the night...
defrosted an ice lake in a valley

Condition 3: Redundant unergative verbs

1 A: Tell me what happened afterwards in the story. B: During the night...
waved a white flag over a fort

2 A: Tell me what happened afterwards in the story. B: It was dark and...
ticked an old clock on a wall

3 A: Tell me what happened afterwards in the story. B: It was dark and...
glittered a diamond ring on a table

4 A: Tell me what happened afterwards in the story. B: During the night...
fluttered a British flag from a flagpole

5 A: Tell me what happened afterwards in the story. B: It was dark and ...
swam many colourful fish in an aquarium

6 A: Tell me what happened afterwards in the story. B: During the night...
flew a big seagull around a ship

Condition 4: Non-redundant unergative verbs

1 A: Tell me what happened afterwards in the story. B: During the night...
talked two old men near a fireplace

2 A: Tell me what happened afterwards in the story. B: It was dark...
screamed an old witch in a cave

3 A: Tell me what happened afterwards in the story. B: During the night...
shopped many local residents at a supermarket

4 A: Tell me what happened afterwards in the story. B: It was dark and...
vomited many drunken guys in a corner

5 A: Tell me what happened afterwards in the story. B: During the night...
sneezed a blonde woman in a bedroom

6 A: Tell me what happened afterwards in the story. B: It was dark and...
coughed an old man in an infirmary

Fillers

1 A: Tell me what happened afterwards in the story. B: It was dark and...
a green zombie opened the door of my bedroom

2 A: Tell me what happened afterwards in the story. B: During the night...
a scary man delivered a letter from Transylvania

3 A: Tell me what happened afterwards in the story. B: During the night...
many new bands sang rock songs

4 A: Tell me what happened afterwards in the story. B: It was dark and...
a ghost whispered my name

5 A: Tell me what happened afterwards in the story. B: It was dark and...
someone shouted my name

6 A: Tell me what happened afterwards in the story. B: During the night...
the boss proposed various alternative solutions

7 A: Tell me what happened afterwards in the story. B: During the night...
various men built a hut

8 A: Tell me what happened afterwards in the story. B: It was dark and...
a creature made a strange sound

9 A: Tell me what happened afterwards in the story. B: During the night...
the nurse read a book

10 A: Tell me what happened afterwards in the story. B: During the night...
the police arrested various drug dealers

11 A: Tell me what happened afterwards in the story. B: It was dark and...
I saw an alien

12 A: Tell me what happened afterwards in the story. B: During the night...
the priest celebrated a mass

13 A: Tell me what happened afterwards in the story. B: During the night...
the student prepared for a test

14 A: Tell me what happened afterwards in the story. B: It was dark ...
my mother morphed into a vampire

15 A: Tell me what happened afterwards in the story. B: It was dark and...
a three-eyed man talked to her

16 A: Tell me what happened afterwards in the story. B: During the night...
the dog died of old age

17 A: Tell me what happened afterwards in the story. B: It was dark and...
an angry man shouted at me

18 A: Tell me what happened afterwards in the story. B: During the night...
the mouse hid from the cat

19 A: Tell me what happened afterwards in the story. B: It was dark and...
someone screamed with fright

20 A: Tell me what happened afterwards in the story. B: It was dark and...
my legs trembled with fear

21 A: Tell me what happened afterwards in the story. B: During the night...
the president met with various advisers

22 A: Tell me what happened afterwards in the story. B: During the night...
the nurse apologized for her mistake

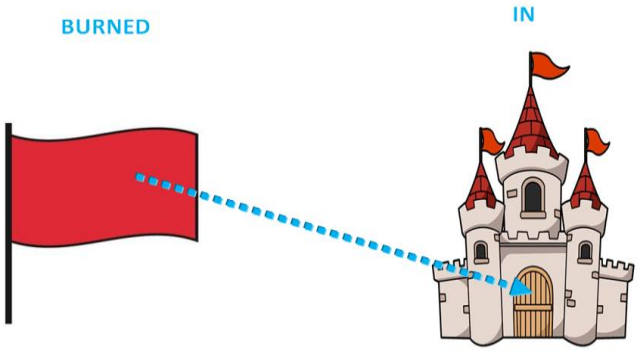
23 A: Tell me what happened afterwards in the story. B: During the night...

the group prayed for a miracle

24 A: Tell me what happened afterwards in the story. B: During the night...
the old woman recovered from her illness

G.2. Items used in the syntactic priming task on the variable "type of intransitive verb"

Note: The prime sentence was presented in written form. The target sentence was elicited through images. For example, to determine whether or not participants produce a sentence like "there burned a flag in the castle" under priming conditions, the following image was used.



Condition 1: Unaccusative verbs of existence and appearance

1 Prime: there came a bear from the cave
there emerged a crocodile from the lake

2 Prime: there arrived a priest in the church
there occurred an explosion in the library

3 Prime: there came a princess through the door
there entered a policeman through the door

4 Prime: there occurred an explosion in the castle
there appeared a ghost in the castle

5 Prime: there appeared a sheep on the road
there arrived a band on the stage

6 Prime: there emerged a monster from the lake
there came a wolf from the cave

Condition 2: Unaccusative verbs of change of state

1 Prime: there broke a glass in the castle
there defrosted a fridge in the factory

2 Prime: there melted a snowman in the park
there broke a mirror in the castle

3 Prime: there dried a shirt on the table
there exploded a suitcase on the road

4 Prime: there exploded a suitcase on the stage
there melted an ice-cream on the table

5 Prime: there burned a cake in the oven
there dried a towel in the park

6 Prime: there defrosted a fridge in the castle
there burned a flag in the castle

Condition 3: Redundant unergative verbs

1 Prime: there glittered a ring on the table
there waved a flag on the mast

2 Prime: there swam a fish in the lake
there ticked a clock in the castle

3 Prime: there ticked a clock in the library
there swam a fish in the bowl

4 Prime: there flew a bird above the factory
there fluttered a flag above the castle

5 Prime: there waved a flag on the mast
there glittered a diamond on the table

6 Prime: there fluttered a flag above the tower
there flew a bird above the trees

Condition 4: Non-redundant unergative verbs

1 Prime: there sneezed a man at the bus stop
there shopped a woman at the store

2 Prime: there coughed a princess in the castle
there talked a policeman in the cave

3 Prime: there talked a fire-fighter in the factory
there screamed a princess in the castle

4 Prime: there screamed a man on the stage
there vomited a fire-fighter on the road

5 Prime: there vomited a witch in the cave
there sneezed a fire-fighter in the factory

6 Prime: there laughed a man in the library
there coughed a witch in the cave

Fillers

1 Prime: a woman a cake baked
a fire-fighter a door opened

2 Prime: a witch a door opened
a woman a book bought

3 Prime: a fire-fighter a cake bought
a princess a witch kissed

4 Prime: a man a diamond kissed
a woman a door closed

5 Prime: a witch a door closed
a firefighter received a cake

6 Prime: a man a book received
a witch a cake ate

7 Prime: a princess a cake ate
a man a library built

8 Prime: a man a castle built
a princess a book read

9 Prime: a witch a book read
a woman a book wrote

10 Prime: a man a book wrote
a man a pizza delivered

11 Prime: a woman a cake delivered
a princess a clock sold

12 Prime: a woman a castle sold
a man a cake baked

13 Prime: it was a fire-fighter who opened the door
it was a woman who baked a cake

14 Prime: it was a woman who bought a book
it was a witch who opened the door

15 Prime: it was a princess who kissed the table
it was a fire-fighter who bought the cake

16 Prime: it was a man who closed the door
it was a princess who kissed a diamond

17 Prime: it was a man who received a cake
it was a witch who closed the door

18 Prime: it was a witch who ate the cake
it was a man who received the book

19 Prime: it was a man who built the library
it was a princess who ate the cake

20 Prime: it was a princess who read the book
it was a man who built the castle

21 Prime: it was a woman who wrote the book
it was a witch who read the book

22 Prime: it was a man who delivered the pizza
it was a man who wrote the book

23 Prime: it was a princess who sold the clock
it was a woman who delivered the cake

24 Prime: it was a man who baked the cake
it was a woman who sold the castle

G.3. Items used in the speeded acceptability judgement task on the variable "type of intransitive verb"

Condition 1: Unaccusative verbs of existence and appearance

1 A: Tell me what happened afterwards in the story. B: It was dark and...
there came a loud roar from a cave

2 A: Tell me what happened afterwards in the story. B: During the night...
there arrived many urgent messages from a ship

3 A: Tell me what happened afterwards in the story. B: It was dark and...
there entered many green zombies through a door

4 A: Tell me what happened afterwards in the story. B: During the night...
there appeared a scary ghost near a tombstone

5 A: Tell me what happened afterwards in the story. B: During the night...
there occurred two serious accidents at a crossroads

6 A: Tell me what happened afterwards in the story. B: It was dark and...
there emerged a black monster from a lake

Condition 2: Unaccusative verb of change of state

1 A: Tell me what happened afterwards in the story. B: During the night...
there broke a large window in a room

2 A: Tell me what happened afterwards in the story. B: During the night…
there melted a lot of snow on a street

3 A: Tell me what happened afterwards in the story. B: It was dark and...
there smashed a sports car into a tree

4 A: Tell me what happened afterwards in the story. B: It was dark and...

there exploded a light projector on a stage

5 A: Tell me what happened afterwards in the story. B: It was dark and...
there burned a big statue in a square

6 A: Tell me what happened afterwards in the story. B: During the night...
there defrosted an ice lake in a valley

Condition 3: Redundant unergative verbs

1 A: Tell me what happened afterwards in the story. B: It was dark and…
there waved a white flag on a mast

2 A: Tell me what happened afterwards in the story. B: It was dark and...
there ticked an old clock on a wall

3 A: Tell me what happened afterwards in the story. B: It was dark and...
there glittered a diamond ring on a table

4 A: Tell me what happened afterwards in the story. B: It was dark and...
there fluttered a white flag on a mast

5 A: Tell me what happened afterwards in the story. B: It was dark and...
there swam a striped fish in an aquarium

6 A: Tell me what happened afterwards in the story. B: During the night...
there flew flocks of birds around an orchard

Condition 4: Non-redundant unergative verbs

1 A: Tell me what happened afterwards in the story. B: It was dark and...
there screamed an old man in a cave

2 A: Tell me what happened afterwards in the story. B: During the night…
there talked some young poets in a café

3 A: Tell me what happened afterwards in the story. B: During the night...
there shopped many old ladies at a store

4 A: Tell me what happened afterwards in the story. B: During the night...
there vomited many drunken guys in a corner

5 A: Tell me what happened afterwards in the story. B: It was dark and...
there sneezed a bearded student in a room

6 A: Tell me what happened afterwards in the story. B: It was dark and...
there coughed a frail man in a room

Fillers

1 A: Tell me what happened afterwards in the story. B: It was dark and...
a green zombie opened the door of my bedroom

2 A: Tell me what happened afterwards in the story. B: During the night...

a scary man delivered a letter from Transylvania

3 A: Tell me what happened afterwards in the story. B: During the night...
many new bands sang rock songs

4 A: Tell me what happened afterwards in the story. B: It was dark and...
a ghost whispered my name

5 A: Tell me what happened afterwards in the story. B: It was dark and...
someone shouted my name

6 A: Tell me what happened afterwards in the story. B: During the night...
the boss proposed various alternative solutions

7 A: Tell me what happened afterwards in the story. B: During the night...
the student prepared for a test

8 A: Tell me what happened afterwards in the story. B: It was dark and...
Jane's mother morphed into a vampire

9 A: Tell me what happened afterwards in the story. B: It was dark and...
a three-eyed man talked to me

10 A: Tell me what happened afterwards in the story. B: During the night...
the dog died of old age

11 A: Tell me what happened afterwards in the story. B: It was dark and...
an angry man shouted at me

12 A: Tell me what happened afterwards in the story. B: During the night...
the mouse hid from the cat

13 A: Tell me what happened afterwards in the story. B: During the night...
various men a hut built

14 A: Tell me what happened afterwards in the story. B: It was dark and...
a creature a strange sound made

15 A: Tell me what happened afterwards in the story. B: During the night...
the nurse a book read

16 A: Tell me what happened afterwards in the story. B: During the night...
the police various drug dealers arrested

17 A: Tell me what happened afterwards in the story. B: It was dark and...
I an alien saw

18 A: Tell me what happened afterwards in the story. B: During the night...
the priest a mass celebrated

19 A: Tell me what happened afterwards in the story. B: It was dark and...
screamed with fright someone

20 A: Tell me what happened afterwards in the story. B: It was dark and...
trembled with fear my legs

21 A: Tell me what happened afterwards in the story. B: During the night...
met with various advisers the president

22 A: Tell me what happened afterwards in the story. B: During the night...
apologized for her mistake the nurse

23 A: Tell me what happened afterwards in the story. B: During the night...
prayed for a miracle the group

24 A: Tell me what happened afterwards in the story. B: During the night...
recovered from her illness the old woman

G.4. Items used in the speeded acceptability judgement task on inversion with "it"

***Condition: SVI with the expletive* it**

1 A: Tell me what happened afterwards in your dream. B: It was dark and...
it came a loud roar from a cave

2 A: Tell me what happened afterwards in your dream. B: During the night...
it arrived many urgent messages from a ship

3 A: Tell me what happened afterwards in your dream. B: During the night...
it entered a strange woman through a backdoor

4 A: Tell me what happened afterwards in your dream. B: During the night...
it appeared a frightening ghost in a church

5 A: Tell me what happened afterwards in your dream. B: It was dark and...
it occurred a car accident near a cliff

6 A: Tell me what happened afterwards in your dream. B: During the night...
it emerged a green monster from a lake

Fillers

1 A: Tell me what happened afterwards in your dream. B: During the night...
various men built a hut

2 A: Tell me what happened afterwards in your dream. B: It was dark and...
a creature made a strange sound

3 A: Tell me what happened afterwards in your dream. B: During the night...
the nurse read a book

4 A: Tell me what happened afterwards in your dream. B: It was dark and...
it appeared to be raining

5 A: Tell me what happened afterwards in your dream. B: It was dark and...
it seemed that I was in Paris

6 A: Tell me what happened afterwards in your dream. B: It was dark and...
it was difficult to see anything

G.5. Items used in the drag-and-drop task on the variable "type of discourse context"

Notes: Most of the items in the drag-and-drop task on the type of discourse context compatible with locative inversion were simultaneously used to test *there*-constructions. Only 1 experimental item was specially designed for testing *there*-constructions: condition 1, item 5.

Condition 1: Narrow subject focus context **(= appendix F, section F.4, condition 1, except for item 5)**

1 A: Who came into the room? B:
came two little boys into the room

2 A: Who arrived into the room? B:
arrived two young women into the room

3 A: Who entered through the backdoor? B:
entered a rock singer through the backdoor

4 A: Who appeared in the restaurant? B:
appeared a famous writer in the restaurant

5 A: What occurred at the crossroads? B:
occurred a car accident at the crossroads

6 A: Who emerged from the cave? B:
emerged a muscular man from the cave

Condition 2: Predicate focus context **(= appendix F, section F.4, condition 2)**

1 A: Do you know anything about the new students? B: Yes.
came some of them from Northern Ireland

2 A: Why are you talking about my students? What did they do? B:
arrived two of them at the campsite

3 A: Why is everybody talking about our 5th-grade students? What did they do? B:
entered two of them through the backdoor

4 A: Why is everybody talking about our 7th-grade students? What did they do? B:
appeared some of them on the stage

5 A: Do you have any news with respect to the auctions of Picasso's diaries? B: Yes.
occurred one of them in New York

6 A: Do you have any news of the fishing boats which disappeared last week? B: Yes.
emerged some of them near the beach

Fillers **= appendix F, section F.4. Besides the fillers in F.4, 1 extra filler was used so that this task on locative and *there*-inversion could have as many fillers as experimental items.**

1 A: Who ran away from the police? B:
a bearded gangster ran away from the police

G.6. Items used in the speeded acceptability judgement task on the variable "type of discourse context"

Condition 1: Narrow subject focus context

1 Who came into the room?
there came a little boy into the room

2 What arrived from South Africa?
there arrived two large parcels from South Africa

3 Who entered through the door?
there entered a rock singer through the door

4 Who appeared on the stage?
there appeared a famous writer on the stage

5 What occurred at this place?
there occurred a famous battle at this place

6 What emerged in Central Africa?
there emerged a viral disease in Central Africa

Condition 2: Predicate focus context

1 Why is everybody talking about our fifth-grade students? What did they do?
there came some of them into our office

2 A: Do you have any news of the tennis players who were missing? B: Yes
there arrived two of them at their hotel

3 Why is everybody talking about our sixth-grade students? What did they do?
there entered some of them through the backdoor

4 Why is everybody talking about our 7th-grade students? What did they do?
there appeared some of them on BBC News

5 A: Do you have any news with respect to the auctions of Picasso's ceramics? B: Yes.
there occurred one of them in New York

6 A: Do you have any news of the fishing boats which disappeared last week? B: Yes.
there emerged two of them near the beach

Fillers

1 Who proposed this solution?
a good economist proposed this solution

2 Who cleaned the kitchen?
my little brother cleaned the house

3 Why is everybody talking about our sixth-grade students? What did they do?

some of them vandalized the school

4 Why is everybody talking about my students? What did they do?

five of them bit a little boy

5 Who complained about the food?

two customers complained about the food

6 Who transformed into a vampire?

Count Vlad transformed into a vampire

7 Why is everybody talking about our fifth-grade students? What did they do?

some of them complained about the food

8 Why is everybody talking about our fifth-grade students? What did they do?

some of them met with a famous singer

9 Who proposed this solution?

this solution proposed an expert

10 Who cleaned the kitchen?

the house cleaned my brother

11 Why is everybody talking about our fifth-grade students? What did they do?

about the food complained some of them

12 Why is everybody talking about our fifth-grade students? What did they do?

with a famous singer met some of them

of old age died their dog

Appendix H

CALL unit on SV/VS orders

---Page 1 ---

Welcome to unit 1!

Bem-vindo(a) à unidade 1!

DURAÇÃO DA UNIDADE: 45 a 60 minutos

INSTRUÇÕES IMPORTANTES:

(i) Quando acabar as atividades de cada página desta unidade, carregue no botão "continuar" para passar à página seguinte. Se quiser voltar à(s) página(s) anterior(es), a fim de alterar as suas respostas, carregue em "voltar".

(ii) Quando terminar a unidade, **carregue em "enviar" para submeter as suas respostas**. Por favor, não se esqueça de carregar neste botão, visto que as suas respostas só ficarão registadas se o fizer.

(iii) Após carregar no botão "enviar", receberá automaticamente uma mensagem com as suas respostas no endereço eletrónico que indicar como seu endereço de contacto. **NÃO apague essa mensagem**, porque, depois de recebermos as suas respostas, enviar-lhe-emos um documento com as soluções da unidade 1 e pedir-lhe-emos que corrija as respostas que submeteu. Para o fazer, terá de abrir a mensagem que contém as suas respostas e carregar no botão "editar resposta".

PRAZO PARA SUBMISSÃO DAS RESPOSTAS ÀS ATIVIDADES DA UNIDADE 1: X de X, X horas (hora de Lisboa)

PRAZO PARA SUBMISSÃO DA CORREÇÃO DAS RESPOSTAS: X de X, X horas (hora de Lisboa)

Para mais esclarecimentos, envie uma mensagem para joana.v.teixeira@gmail.com

---Page 2---

1. Watch the video and answer the questions below using complete sentences.

[*video here:* https://www.youtube.com/watch?v=OzKY5YHnOTg]

1.1. Who took the cookie?

[Text box here]

1.2. Who ate the cookie?

[Text box here]

2. Watch the video again to complete the lyrics of the song. Use UPPERCASE lettering to indicate which word is stressed in each answer to the question "who took the cookie from the cookie jar?".

Who took the cookie from the cookie jar?

PANDA took the cookie from the cookie jar.

Who me? Yes, you!

Not me. Then who?

Rabbit!

Who took the cookie from the cookie jar?

[Text box here]

Who me? Yes, you!

Not me. Then who?

Bear!

Who took the cookie from the cookie jar?

[Text box here]

Who me? Yes, you!

Not me. Then who?

Penguin!

Who took the cookie from the cookie jar?

[Text box here]

Who me? Yes, you!

Not me. Then who?

Kangaroo!

Who took the cookie from the cookie jar?

[Text box here]

Who me? Yes, you!

[Text box here]

I took the cookie from the cookie jar

the yummy, yummy cookie from the cookie jar

Are you hungry?

Let's share!

OK

Who wants some cookie?

I do, I do! Cookie, please!

3. Which part of the answers to the question "who took the cookie from the cookie jar?" is stressed? Choose ONE option from the list.

(a) the part that directly answers the question *who*, that is, the subject of the sentence

(b) a part of the answer which is repeated from the question

4. From your point of view, which of the following translations of the dialogue below sounds more natural in Portuguese? Choose ONE option from the list.

A: Who ate the cookie? B: The bear ate it.

(a) A: Quem comeu a bolacha? B: O urso comeu(-a).

(b) A: Quem comeu a bolacha? B: Comeu(-a) o urso.

5. Despite not being equally natural, both of the options presented in 4 are grammatically possible in Portuguese. Now consider the examples (1) and (2) below. Are they possible in English? Choose ONE option from the list.

(1) A: Who ate the cookie? B: The bear ate it.

(2) A: Who ate the cookie? B: Ate it the bear.

(a) Both (1) and (2) are possible in English

(b) (1) is possible in English, but (2) is impossible

(c) (1) is impossible in English, but (2) is possible

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6. Read the following information. If necessary, go back to questions 3 - 5 to correct your answers.

There are several different ways to answer *wh*-questions. One way is to give a short answer, as in (1). Another way is to give a complete answer, as in (2).

(1) a. A: Who ate the cake? B: John.
b. A: Who ate the cake? B: John did.

(2) A: Who ate the cake? B: John ate the cake.

Portuguese and English adopt different strategies for giving complete answers to *wh*-questions about the subject.

In Portuguese, the subject is typically placed in post-verbal position, as illustrated below:

(3) A: Quem é que comeu o bolo?
a. B: #O João comeu (-o).
subject *verb* *object*
b. B: Comeu (-o) o João.
verb *object* *subject*

(4) A: Quem é que chegou?
a. B: #O João chegou.
subject *verb*
b. B: Chegou o João.
verb *subject*

(5) A: Quem é que telefonou?
a. B: #O João telefonou.
subject *verb*
b. B: Telefonou o João.
verb *subject*

= unnatural, but grammatically possible

In contrast, in English, the order subject+verb(+object) is obligatorily maintained and the subject receives a marked stress, as shown below: (UPPERCASE lettering indicates marked stress)

(5) Who ate the cake?
a. JOHN ate it.
b. *Ate it John.

(6) Who arrived?
a. JOHN arrived.
b. *Arrived John.

(7) Who called?
a. JOHN called.
b. *Called John.

* = grammatically impossible

7. Now consider the following dialogues. How can they be translated into English? Choose ONE option per dialogue.

7.1. A: Porque é que estás a chorar? O que aconteceu? B: Morreu o meu avô.
(a) A: Why are you crying? What happened? B: Died my grandpa.
(b) A: Why are you crying? What happened? B: My grandpa died.
(c) Both

7.2. A: Porque é que estavas tão contente ontem? B: Porque apareceu a minha carteira.
(a) A: Why were you so happy yesterday? B: Because appeared my wallet.
(b) A: Why were you so happy yesterday? B: Because my wallet appeared.
(c) Both

7.3. A: O que aconteceu ontem na biblioteca? B: Desapareceram dois livros.
(a) A: What happened yesterday in the library? B: Disappeared two books.
(b) A: What happened yesterday in the library? B: Two books disappeared.
(c) Both

8. Read the following information. If necessary, go back to question 7 to correct your answers.

English and Portuguese behave differently not only in the context of *wh*-questions about the subject, but also in the context of questions that force the whole answer to be interpreted as new information, such as (1) to (3).

(1) a. A: What happened? B: John arrived / *arrived John.
b. A: O que aconteceu? B: O João chegou / chegou o João.

(2) a. A: Why were you so happy last night? B: Because my boyfriend called / *because called my boyfriend.
b. A: Porque é que estavas tão contente ontem à noite? B: Porque o meu namorado telefonou / porque telefonou o meu namorado.

(3) a. A: What's the matter? B: John ate my cookie / *ate John the cookie.
b. A: O que se passa? B: O João comeu a minha bolacha / #comeu o João a minha bolacha.

In the contexts where the whole sentence is new information, English only allows the order subject+verb(+object), as shown in examples (1a), (2a) and (3a). In contrast, Portuguese admits not only this word order, but also the order verb+subject (see examples (1b) and (2b)).

In brief, based on what we have seen in points 6 and 8, we can conclude that…

> Portuguese allows the order verb+subject in some contexts.

> English NEVER admits the order verb+subject; it requires the subject to occur in pre-verbal position.

NOTE: English allows the subject to occur after the verb in very few cases, for example, when the sentence-initial position is occupied by a locative expression (e.g. *on the horizon appeared a ship*). We will examine this phenomenon in unit 2.

9. Considering the information in 6 and 8, choose the most appropriate English translation of each of the Portuguese dialogues below.

9.1. A: Quem é que telefonou? B: Telefonou uma pessoa do departamento de marketing.

(a) A: Who called? B: Called a person from the marketing department.

(b) A: Who called? B: A person from the marketing department called.

9.2. A: Porque é que eles se esconderam na cozinha ontem de manhã? B: Porque entrou um polícia.

(a) A: Why did they hide in the kitchen? B: Because entered a police officer.

(b) A: Why did they hide in the kitchen yesterday morning? B: Because a police officer entered.

9.3. A: O que aconteceu ontem à noite? B: Morreu o Prince.

(a) A: What happened last night? B: died Prince.

(b) A: What happened last night? B: Prince died.

9.4. A: Quem é que desmaiou? B: Desmaiou a filha da Maria.

(a) A: Who fainted? A: Fainted Maria's daughter.

(b) A: Who fainted? A: Maria's daughter fainted.

9.5. A: Alguém viu o acidente? B: Viu aquela senhora.

(a) A: Did somebody see the accident? B: Saw it that lady.

(b) A: Did somebody see the accident? B: That lady saw it.

9.6. A: Quem é que entrou? B: Entrou uma cliente.

(a) A: Who entered? B: Entered a customer.

(b) A: Who entered? B: A customer entered.

9.7. A: O que aconteceu ontem em Nova Iorque? B: Caiu um avião.

(a) A: What happened yesterday in New York? B: Crashed an aeroplane.

(b) A: What happened yesterday in New York? B: An aeroplane crashed.

9.8. A: Porque é que os miúdos estavam a olhar lá para fora? B: Porque apareceu um coelho.

(a) A: Why were the kids looking outside? B: Because appeared a rabbit.

(b) A: Why were the kids looking outside? B: Because a rabbit appeared.

10. Indicate whether the following sentences are possible in English. Then correct the impossible ones.

10.1. A: Why are there so many police officers on the streets? B: Because has just occurred a terrorist attack.

10.2. A: What was that crashing sound? B: A window broke.

10.3. A: Who has arrived? B: Has arrived a police officer.

10.4. A: Who bought that old stamp? B: Mary bought it.

10.5. A: Why were you so worried last night? B: Because two important files disappeared.

10.6. A: Why did you call the police yesterday? B: Because arrived a suspicious package.

10.7. A: Who smokes? B: John smokes.

10.8. A: Why was she so happy? B: Because has finally appeared a suitable donor for her son.

10.9. A: Who speaks English? B: Speak Maria, Antónia and Ana.

10.10. A: Who screamed? B: Kate screamed.

10.11. A: Why was she relieved? B: Because emerged a solution to her problem.

10.12. A: How much money disappeared yesterday? B: Disappeared two hundred euros.

10.13. A: What happened yesterday at the party? B: A bomb exploded.

10.14. A: Who came with you? B: Came a friend.

10.15. A: Who answered? B: One of John's daughters answered.

10.16. A: Why are they worried? B: Because one of our most dangerous inmates escaped.

Correct the impossible sentences here:

[Text box here]

11. Answer each of the questions presented below by ordering the words provided to you.

11.1. Who died yesterday?
died / a / writer / famous
[Text box here]

11.2. What happened?
boss / telephoned / our
[Text box here]

11.3. Who appeared last night at the party?
appeared / his/ Michael / and / girlfriend
[Text box here]

11.4. What broke?
mirror / a / broke / huge
[Text box here]

11.5. Why have they beefed up the president's security?
have / arrived / various / death / because / threats
[Text box here]

11.6. What happened yesterday in the palace?
paintings / disappeared / two
[Text box here]

11.7. Who stole the pen?
it / stole / girl / that
[Text box here]

11.8. Why is an ambulance here?
fainted / student / a
[Text box here]

12. Write a short dialogue which incorporates the following structures: (i) two *who*-questions and (ii) two questions that force the entire answer to be interpreted as new information (e.g. what happened?).

[Text box here]

---Page 4---

Do you have any question or doubt? If so, please list them in the box below. You can write them in English or Portuguese.

[Text box here]

That's it for now! Thank you for participating.

Appendix I

CALL unit on locative inversion

---Page 1 ---

Welcome to unit 2!

Bem-vindo(a) à unidade 2!

DURAÇÃO DA UNIDADE: 45 a 60 minutos

INSTRUÇÕES IMPORTANTES:

(i) Quando acabar as atividades de cada página desta unidade, carregue no botão "continuar" para passar à página seguinte. Se quiser voltar à(s) página(s) anterior(es), a fim de alterar as suas respostas, carregue em "voltar".

(ii) Quando terminar a unidade, **carregue em "enviar" para submeter as suas respostas**. Por favor, não se esqueça de carregar neste botão, visto que as suas respostas só ficarão registadas se o fizer.

(iii) Após carregar no botão "enviar", receberá automaticamente uma mensagem com as suas respostas no endereço eletrónico que indicar como seu endereço de contacto. **NÃO apague essa mensagem**, porque, depois de recebermos as suas respostas, enviar-lhe-emos um documento com as soluções da unidade 2 e pedir-lhe-emos que corrija as respostas que submeteu. Para o fazer, terá de abrir a mensagem que contém as suas respostas e carregar no botão "editar resposta".

PRAZO PARA SUBMISSÃO DAS RESPOSTAS ÀS ATIVIDADES DA UNIDADE 2: X de X, X horas (hora de Lisboa)

PRAZO PARA SUBMISSÃO DA CORREÇÃO DAS RESPOSTAS: X de X, X horas (hora de Lisboa)

Para mais esclarecimentos, envie uma mensagem para joana.v.teixeira@gmail.com

---Page 2---

1. Read the following poem.

In the garden barked a dog,
And over the gate whinnied a pony,
And in the mud snuffled a pig,

And by the water quacked a duck.

And in the house mewed a cat,
And on the fence chirped a bird,
And beside the well bleated a sheep,
And under the trees mooed a cow.

With all this crazy noise going on what would the neighbours think?
Well, they would think,

That in the garden was a dog,
And over the fence was a pony,
And in the mud was a pig,
And by the water was a duck.

And in the house was a cat,
And on the fence was a bird,
And beside the well was a sheep,
And under the trees was a cow.

What a perfectly normal farm.

https://myraaiko.deviantart.com/art/The-Farmyard-74142295

1.1. Suggest an appropriate title for the poem.

[Text box here]

1.2. Where were the following animals?

1.2.1. the duck?

[Text box here]

1.2.2. the cat?

[Text box here]

1.2.3. the sheep?

[Text box here]

1.2.4. the cow?

[Text box here]

1.2.5. the pig?

[Text box here]

1.3. What noises do the animals mentioned in the poem make?

1.3.1. A dog

[Drop-down menu]

1.3.2. A pony

[Drop-down menu]

1.3.3. A pig

[Drop-down menu]

1.3.4. A duck

[Drop-down menu]

1.3.5. A cat

[Drop-down menu]

1.3.6. A bird

[Drop-down menu]

1.3.7. A sheep

[Drop-down menu]

1.3.8. A cow

[Drop-down menu]

[Options in all drop-down menus: barks / bleats / chirps / mews / moos / quacks / snuffles / whinnies]

2. Consider the first line of the poem: "In the garden barked a dog". How are the constituents of this sentence ordered? Choose ONE of the options below.

(a) Subject + verb + locative

(b) Locative + verb + subject

(c) Verb + subject + locative

(d) Verb + locative + subject

3. Read the following information. If necessary, go back to question 2 to correct your answer.

In English, the verb usually comes after the subject, but this order can be inverted when a locative expression (i.e. an expression that refers to a spatio-temporal location) is placed at the beginning of the sentence. This is what happens in the first line of the poem you have just read:

[A dog] [barked] [in the garden] => [In the garden] [barked] [a dog]

| | | | | |

subject *verb* *locative* *locative* *verb* *subject*

4. Read the poem again to identify all the structures with the order locative + verb + subject. Then copy and paste them into the box below.

[Insert the poem at this point]

[Text box here]

5. Read the passages below, which show that the order locative + verb + subject occurs not only in poems, but also in a wide variety of texts. Then copy and paste into the box below all the structures with the order locative + verb + subject which occur in these passages.

TEXT A

We walked through this rubble, the Syrian patrol around us, picking our way over concrete and broken typewriters and tailors' dummies and, occasionally, small, grey, live grenades. There was complete silence as we padded through two more streets with walls so bitten away that they looked like lace. Then we came to a smashed yellow stone façade and a doorway that led down into a cellar. Sounds came from inside and from the darkness appeared a man holding a Kalashnikov rifle. His face was covered in dirt and he grinned at us in a rather frightened way. We had reached the Palestinian front line.

Fisk, R. (1991). *Pity the nation: Lebanon at war*. Oxford: OUP.

TEXT B

The first hint of morning light was creeping across the Indian Ocean as the 10,000-ton Miami-based cruise ship *Seabourn Spirit* motored south along the Somali coast just over a week ago. Most of the 312 people aboard - 151 passengers and 161 crew members - were asleep; the boat was expected in Mombasa, Kenya, that afternoon. Then, out of the gloom, came a burst of gunfire. Passengers later said they saw inflatable rubber boats speeding toward the Spirit, each carrying four or five men dressed in black and armed with machine guns and rocket-propelled grenades.

http://www.time.com/time/magazine/article/0,9171,802245,00.html

TEXT C

In 1949, the Chinese Communist Party had taken control over the Chinese mainland, and the Americans had detected evidence in the atmosphere of the first known Russian A-bomb. The

invasion of South Korea by the Communist North Koreans in June 1950 heightened the public's feelings of insecurity. Against this background emerged the figure of Senator Joe McCarthy.

Lancaster, A. (1984). *The Americas*. Kent: Edward Arnold Ltd.

TEXT D

Near at hand is the seventeenth-century Rathaus, the Town Hall, imposing from the outside and positively beautiful inside, with its fine baroque Banqueting Hall. Then wander through the maze of streets leading into the old town on your right, to enter a world as far from the busy twentieth century as it is possible to be. There are drowsy old houses, sleepy alleys and squares, intimate cafes, and the air of medieval Switzerland envelopes you. Next make for Rindermarkt, and stop at No 9. Here lived Gottfried Keller (1819-90), one of the most important figures of Swiss literature. The restaurant in which he used to take his lunch, Zur Opfelchammer, is still there.

Loveland, K. (1989). *Off the beaten track: Switzerland*. UK: Moorland Pub.

[Text box here]

6. Read the following examples.

(1) a. In the post arrived a package.
b. From this culture of greed arose the primal names of American business.

(2) a. *In the forest disappeared John's daughter.
b. In the forest appeared John's daughter.

(3) a. *On the top floor broke many windows.
b. *On the streets of Chicago melted a lot of snow.

(4) a. From the mast waved a white flag.
b. *From the roof waved a bearded student.
c. In the church sang a choir.
d. *In the church sang John.
e. *In the church talked a choir.

* = impossible in English

6.1. Considering your answers to questions 4 and 5 and the examples (1) to (4), select from the list below the types of verbs which are admitted in structures with the order locative + verb + subject.

(a) Verbs that express an action which is characteristic of the subject (e.g. the verb *swim* combined with a subject that characteristically swims like "a fish")

(b) Verbs of change of state (e.g. *dissolve*, *break*)

(c) Verbs of disappearance (e.g. *disappear*, *vanish*)

(d) Verbs of existence and appearance (e.g. *live*, *appear*)

(f) Verb *to be*

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7. Read the following information. If necessary, go back to question 6.1 to correct your answer.

Structures with the order locative + verb + subject serve the function of presenting a new entity in the location to which the pre-verbal expression refers.

Jane owns a marble table. [On the table] is [a beautiful vase].

| |

location new entity

For this reason, generally, the order locative + verb + subject is only possible with the following verbs, which have an existential/presentational meaning:

(i) **Verb *to be***;

(ii) **Verbs of existence and appearance**, e.g. *appear, arise, arrive, come, emerge, enter, exist, happen, live, occur, reside, rise*, among others.

(iii) **Verbs that express an action which is characteristic of the subject referent**, e.g. the verb *bark* combined with a subject that typically barks like a *dog*; the verb *wave* combined with a subject that characteristically waves like *a flag* or the verb *swim* combined with a subject that prototypically swims like *a fish*.

To clarify what is meant by (iii), let us examine the following example:

(1) a. From the mast waved a white flag.
b. *From the roof waved a bearded student.

Waving is what a flag characteristically does, but crucially not what students typically do. As proposed in (iii), a verb like *wave*, which does not inherently denote existence and appearance, allows the order locative + verb + subject when the subject characteristically waves – "a white flag" –, but not with a subject that does not prototypically execute this activity – "a bearded student".

8. Portuguese admits the order locative + verb + subject with a wider variety of verbs than English. Bearing this fact in mind, and considering the information in 7, choose the most appropriate English translation(s) of each of the Portuguese sentences below.

8.1. Dos Estados Unidos vieram 100 atletas.
(a) From the United States came 100 athletes.
(b) 100 athletes came from the United States.
(c) Both

8.2. Da varanda acenou uma senhora loira.
(a) From the balcony waved a blonde lady.
(b) A blonde lady waved from the balcony.

(c) Both

8.3. Na cozinha partiu-se um copo de cristal.
(a) In the kitchen broke a crystal glass.
(b) A crystal glass broke in the kitchen.
(c) Both

8.4. No centro de Londres ardeu uma estação de comboios.
(a) In central London burnt a train station.
(b) A train station burnt in central London.
(c) Both

8.5. No lago nadam muitos peixes coloridos.
(a) In the pond swim many colourful fish.
(b) Many colourful fish swim in the pond.
(c) Both

8.6. No castelo apareceu um fantasma.
(a) In the castle appeared a ghost.
(b) A ghost appeared in the castle.
(c) Both

8.7. Na enfermaria sorria meia dúzia de bebés recém-nascidos.
(a) In the nursery smiled half a dozen newborn babies.
(b) Half a dozen newborn babies smiled in the nursery.
(c) Both

8.8. Em Lisboa desapareceram duas crianças.
(a) In Lisbon disappeared two children.
(b) Two children disappeared in Lisbon.
(c) Both

9. Indicate whether the following sentences are possible in English. Then correct the impossible ones.

	Possible	Impossible
9.1. Across the sky flew flocks of birds.		
9.2. At the station arrived a strange woman.		
9.3. At this supermarket shop local residents.		
9.4. From the lake emerged a crocodile.		
9.5. From each mast fluttered a red flag.		
9.6. In government offices complain many people.		
9.7. In the cafés of Paris talk many artists.		
9.8. In this pool swim many old ladies.		
9.9. On the stage sang a choir.		
9.10. On the clotheslines dried two shirts.		

9.11. In the corner smoked a woman.

9.12. On her finger sparkled a magnificent diamond.

9.13. On the wall hung a beautiful painting.

9.14. Out of the house came a tiny old lady.

9.15. In the woods lives a family of bears.

9.16. Into the air evaporated the liquid solution.

Correct the impossible sentences here:

[Text box here]

10. Create a continuation to each of the sentences presented below by ordering the blocks of words provided to you. Use the order locative + verb + subject every time you feel it is acceptable in English.

10.1. At last, she found the shop belonging to Dai Jones. It was spread well back from the front door, a long dimly lit store that sold everything from flour and salt to patent medicines.
stood / behind the counter / a handsome young man
[Text box here]

10.2. Further back was the great mass of the city itself, with the cathedral's rust-red dome rising unmistakably above the ruins of the bombed houses.
a line of gentle hills/rose / beyond the city
[Text box here]

10.3. I shouted again, and again I imagined that I heard an answer. Then…
out of the darkness / a white circle of light / appeared
[Text box here]

10.4. Last weekend the sunshine and warmer temperatures returned to Chicago.
melted / a lot of snow / on the streets of the city
[Text box here]

10.5. The pulpit platform projected out into the sanctuary from a flat and unbroken south wall.
on the west wall / ticked / an old clock
[Text box here]

10.6. Last year the temperatures in Norway reached -30 degrees.
various rivers / in the northern region of the country / froze
[Text box here]

10.7. The Vienna Opera House was the most famous ballroom in Austria.
danced / well-known aristocrats / here
[Text box here]

10.8. There were diamonds, sapphires and pearls in the bracelets which adorned her arms. But it was her crown which was almost blinding in its brilliance.
an enormous diamond / in the centre of this / glittered
[Text box here]

11. Write a short poem using sentences with the order locative + verb + subject.
[Text box here]

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Do you have any questions or doubts? If so, please list them in the box below. You can write them in English or Portuguese.
[Text box here]

That's it for now! Thank you for participating.

Appendix J

Revision exercises

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Revision exercises

DURAÇÃO: 30 minutos

INSTRUÇÕES IMPORTANTES:

(i) Quando terminar as atividades de revisão, carregue em "enviar" para submeter as suas respostas. Por favor, não se esqueça de carregar neste botão, visto que as suas respostas só ficarão registadas se o fizer.

(ii) Após carregar no botão "enviar", aparecerá no ecrã uma mensagem que contém um botão intitulado "Ver as questões que você acertou". Carregue nesse botão e verifique em que questões acertou e errou. Em seguida, com base nessa informação, corrija as questões que errou. Para tal, aceda à mensagem com as suas respostas enviada automaticamente para o seu e-mail e carregue no botão "editar resposta".

Para mais esclarecimentos, envie uma mensagem para joana.v.teixeira@gmail.com

---Page 2 ---

[*video here:* **https://www.youtube.com/watch?v=VOCOmKlbEoU&rel=0]**

1. Watch the video and decide whether the statements below are TRUE or FALSE.

1.1. In English, complete answers to *wh*-questions (e.g. who arrived? what happened?) must have the following word order: subject+verb(+object).

1.2. Verbs of existence and appearance (e.g. *live, appear, come, arrive*…) are allowed in structures with the order locative + verb + subject.

1.3. Verbs of change of state (e.g. *break, melt, defrost, burn*…) are allowed in structures with the order locative + verb + subject.

1.4. Verbs that express an activity which is characteristic of the subject (e.g. the verb swim combined with a subject that characteristically swims like "a fish") are allowed in structures with the order locative + verb + subject.

2. Indicate whether the following answers are possible or impossible in English.

2.1. A: What happened yesterday in Wales? B: An aeroplane crashed.

2.2. A: Who has entered? B: Has entered a customer.

2.3. A: Why are you relieved? B: Because has finally emerged a solution to my problem.

2.4. A: Why did they call an ambulance last night? B: Because a boy fainted.

2.5. A: Who died last night at the Grammy's? B: Died a famous jazz singer.

2.6. A: Why were the kids looking outside? B: Because a rabbit appeared.

2.7. A: Who was born yesterday? B: Was born Maria's grandson.

2.8. A: Why did you call the police yesterday? B: Because arrived a suspicious package.

2.9. A: Who came to the party? B: Came John and Susan.

2.10. A: What broke? B: Two glasses broke.

2.11. A: Who called? B: A guy from the marketing department called.

2.12. A: Why did they hide in the kitchen? B: Because entered a police officer.

3. How should you answer the following *wh*-questions? Choose ONE option per question.

3.1. Who has arrived?

(a) Mrs Jones has arrived.

(b) Has arrived Mrs Jones.

3.2. Who fainted?

(a) Fainted an old lady.

(b) An old lady fainted.

3.3. What happened?

(a) Called our new boss.

(b) Our new boss called

3.4. Why are there so many police officers on the streets?

(a) Because has just occurred a terrorist attack.

(b) Because a terrorist attack has just occurred.

3.5. Who disappeared?

(a) a British three-year-old girl disappeared.

(b) Disappeared a British three-year-old girl.

3.6. Why is she so happy?

(a) because a suitable donor has finally appeared

(b) because has finally appeared a suitable donor

3.7. Who bought that cake?

(a) Mary bought it.

(b) Bought it Mary.

3.8. Why are you so worried?

(a) Because disappeared two important files

(b) Because two important files disappeared

3.9. What was that crashing sound?

(a) a window broke

(b) broke a window

3.10. Who screamed?

(a) That boy screamed.

(b) Screamed that boy.

4. Indicate whether the following sentences are possible or impossible in English.

4.1. On the 7th floor broke many windows.

4.2. From the United States came 100 athletes.

4.3. Near our table vomited a boy.

4.4. On the streets of London melted a lot of snow.

4.5. On the stage exploded a light projector.

4.6. On the mast waved a white flag.

4.7. Through the backdoor entered a group of acrobats.

4.8. In central London burnt a train station.

4.9. Above the bridge flew flocks of birds.

4.10. In the library sneezed a strange man.

4.11. At this supermarket shopped most local residents.

4.12. Against a wall smashed a red car.

4.13. In the post arrived a letter from your sister.

4.14. In the corridor screamed a doctor.

4.15. In the kitchen defrosted a fridge.

5. Indicate which continuations of the sentences below are grammatically possible in English.

5.1. Further back was the great mass of the city itself, with the cathedral's rust-red dome rising unmistakably above the ruins of the bombed houses.

(a) Beyond the city rose a line of gentle hills.

(b) A line of gentle hills rose beyond the city.

(c) Both are possible in English

5.2. In November 1961, a committee of specialists in steroid nomenclature was convened in Columbus, Ohio, at the request of the IUPAC Commission on Steroid Nomenclature.

(a) From this meeting emerged a number of important recommendations.

(b) A number of important recommendations emerged from this meeting.

(c) Both are possible in English

5.3. There were diamonds, sapphires and pearls in the bracelets which adorned her arms. But it was her crown which was almost blinding in its brilliance.

(a) In the centre of this glittered an enormous diamond.

(b) An enormous diamond glittered in the centre of this.

(c) Both are possible in English

5.4. The sea floor was lined with starfish, coral and seagrass, and…

(a) Above it swam fish of all sizes.

(b) Fish of all sizes swam above it.

(c) Both are possible in English

5.5. I shouted again, and again I imagined that I heard an answer. Then…

(a) Out of the darkness appeared a white circle of light

(b) A white circle of light appeared out of the darkness

(c) Both are possible in English

5.6. The pulpit platform projected out into the sanctuary from a flat and unbroken south wall.

(a) On the west wall ticked an old clock

(b) An old clock ticked on the west wall.

(c) Both are possible in English

5.7. By the time the Marines reached the top of Mount Suribachi, they raised a piece of pipe upright and…

(a) From one end fluttered a flag

(b) A flag fluttered from one end

(c) Both are possible in English

5.8. Our headquarters were in a village formed by natives who had accepted Christianity, so we were among friends, though our numbers were very few.

(a) in the neighbourhood lived a man called Sulukavo.

(b) A man called Sulukavo lived in the neighbourhood.

(c) Both are possible in English